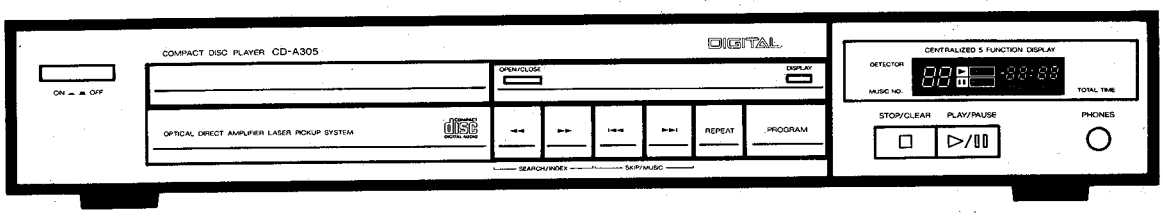
AKAI SERVICE MANUAL



COMPACT DISC PLAYER

MODEL CD-A305

COMPACT disc DIGITAL AUDIO

SPECIFICATIONS

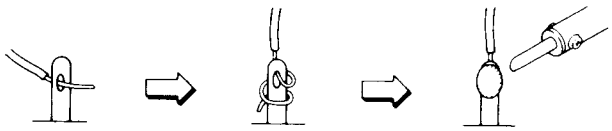
Type	Optical
Pick-up system	3 beam semi-conductor laser
Channel	2 channel
Sampling frequency	44.1 kHz
Dynamic range	94 dB
Frequency response	4 Hz to 20,000 Hz + 0.5 dB, − 1.0 dB
T.H.D.	0.004% (1 kHz)
Wow & Flutter	Unmeasurable level
Line output level	2 V
Power requirements	120V, 60 Hz for USA 220 V, 50 Hz for Europe except UK 240 V, 50 Hz for UK & Australia 110V/120V/220V/240V, 50 Hz/60 Hz convertible for other country
Dimensions	425 (W) x 63 (H) x 280 (D) mm (16.7 x 2.5 x 11.0 inches)
Weight	3.3 kg (7.3 lbs)

* For improvement purposes, specifications and design are subject to change without notice.

★SAFETY INSTRUCTIONS

PRECAUTIONS DURING SERVICING

1. Parts identified by the ⚠ symbol parts are critical for safety. Replace only with parts number specified.
2. In addition to safety, other parts and assemblies are specified for conformance with such regulations as those applying to spurious radiation.
   These must also be replaced only with specified replacements.
   Examples: RF converters, tuner units, antenna selector switches, RF cables, noise blocking capacitors, noise blocking filters, etc.
3. Use specified internal wiring. Note especially:
   1) Wires covered with PVC tubing
   2) Double insulated wires
   3) High voltage leads
4. Use specified insulating materials for hazardous live parts. Note especially:
   1) Insulation Tape
   2) PVC tubing
   3) Spacers (Insulating Barriers)
   4) Insulation sheets for transistors
   5) Plastic screws for fixing microswitch (especially in turntable)
5. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.), wrap ends of wires securely about the terminals before soldering.



6. Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.).
7. Check that replaced wires do not contact sharp edged or pointed parts.
8. Also check areas surrounding repaired locatoins.
9. Use care that foreign objects (screws, solder droplets, etc.) do not remain inside the set.

SAFETY CHECK AFTER SERVICING

Confirm the specified insulation resistance between power cord plug prongs and externally exposed parts of the set is greater than 10 M ohms. but for equipment with external antenna terminals (tuner, receiver, etc.) and is intended for [C] or [A], specified insulation resistance should be headphone jacks line-in-out jacks etc. more than 2.2 M ohms (ground terminals, microphone jacks).

★INFORMATION

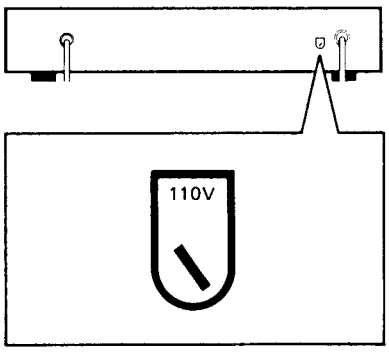
SYMBOLS FOR PRIMARY DESTINATION

Alphabet indicates the destination of the units as listed below.

Symbols	Principal Destinations
[A]	USA
[B]	UK
[C]	Canada
[E]	Europe (except UK)
[J]	Japan
[S]	Australia
[V]	W. Germany only
[U]	Universal Area
[Y*]	Custom version

VOLTAGE CONVERSION ([U] Model only)

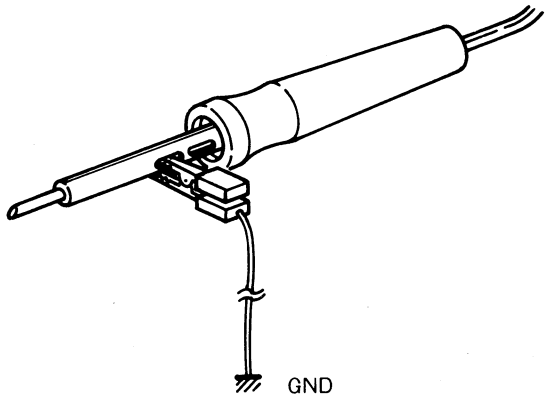
Befor connecting the power cord. SET the VOLTAGE SELECTOR located on the rear panel with a screwdriver so that the correct voltage is indicated.



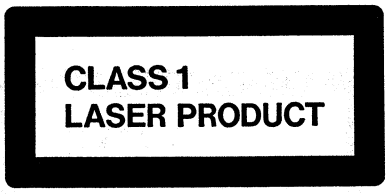
PRECAUTIONS IN REPAIRING

When repairing or adjusting the unit, please note the following points.

1. Do not put excessive pressure on the mechanical part (operation part), including the pick-up block, as extremely high mechanical precision is required in these parts.
2. When the base is removed for repair or adjustment, make sure that there are no metal objects in the narrow gap between the P.C. board or the mecha parts and the base.
3. The Micro-Computer and the CD signal processing ICs can be damaged by static electricity or leakage from a soldering iron during repairing.
   While soldering, please take the precautions against leakage as in the illustration.
4. Do not loosen any screws in the pick-up block.
   When handling the pick-up block, please refer to the points to NOTE when replacing the pick-up block.
5. Keep safety for hazardous invisible Laser Radiation, -DO NOT watch the Laser Beam (Objective Lens) directly.
6. Models for the same countries, Laser Warning Labels are affixed on the unit and inside of the unit, as shown below.
   Read it carefully for your safety, when repairing or adjusting the unit.



[DENMARK]

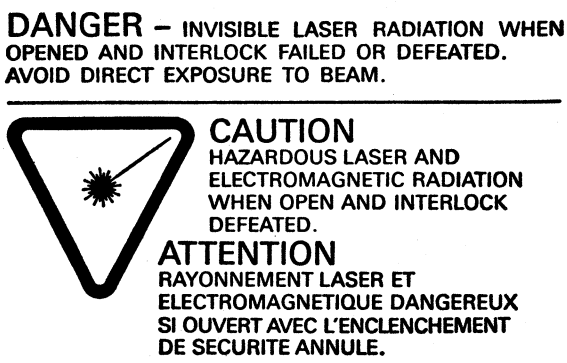


A Label affixed on the unit

A1 A Label affixed inside of the unit

[UK and USA]

A Label affixed on the unit

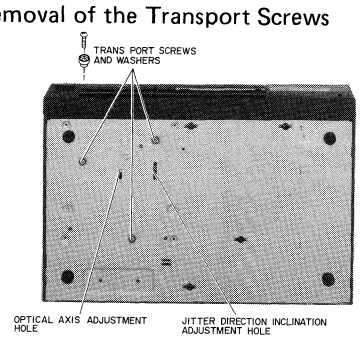


A1 A Label affixed inside of the unit

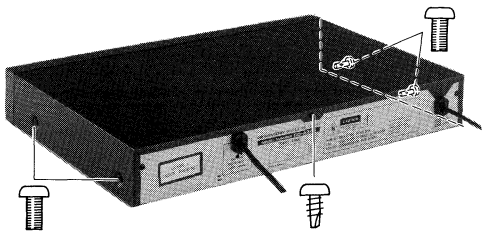
I. DISASSEMBLEY

In case of trouble, etc. necessitating dismantling, please dismantle in the order shown in the photographs. Reassemble in reverse order.

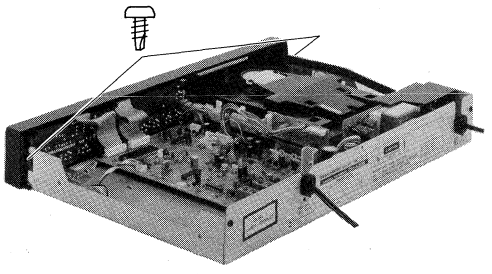
1 Removal of the Transport Screws



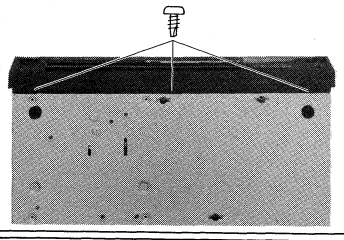
2 Removal Upper Cover



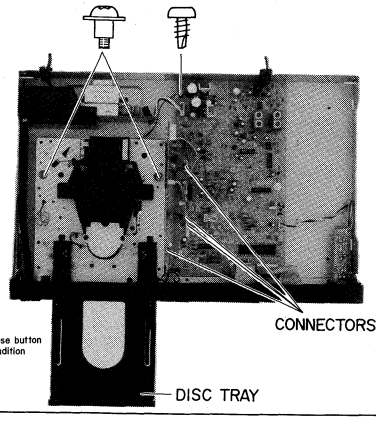
3 Removal Front Panel



4



5 Removal of the Mechanism Assembly


CONNECTORS
First of all,press the OPEN/Close button Set the Disc Tray unloading condition Remove the connectors (J101, J102, J201, J301)
DISC TRAY

II. CONTROLS

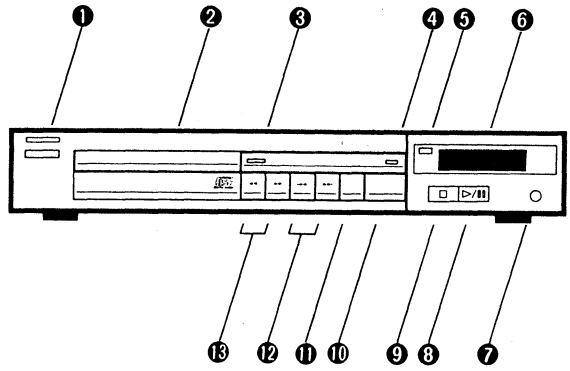


Fig. 2-1 Front View

❶ POWER Switch
To turn ON and OFF the Akai CD player.

❷ Disc drawer
Holds a compact disc.

❸ OPEN/CLOSE button
To load and eject compact discs, to stop compact disc playback and to cancel all the memorized programs.

❹ DISPLAY button
To choose the display mode, individual time, or remaining time mode display.

❺ Remote control DETECTOR window
Keep clean for proper remote control operation.

❻ FL (Fluorescent) Display
Shows what mode the Akai CD player is in.

❼ PHONES jack
Plug in your headphones here.

❽ PLAY/PAUSE ► / ❚❚ button
To start playback and to temporarily stop playback.

❾ STOP/CLEAR ■ button
To clear a program or REPEAT play, or to STOP regular play back.

❿ PROGRAM (PRGM) button
To memorize programs for random playback.

⓫ REPEAT button
To replay a single selection or the entire disc.

⓬ SKIP/MUSIC ⏮ / ⏭ buttons
Use for skip search playback, and programming.

⓭ Manual SEARCH/INDEX ◄◄ / ►► buttons
Use these buttons for manual search operation.

III. PRINCIPAL PARTS LOCATION

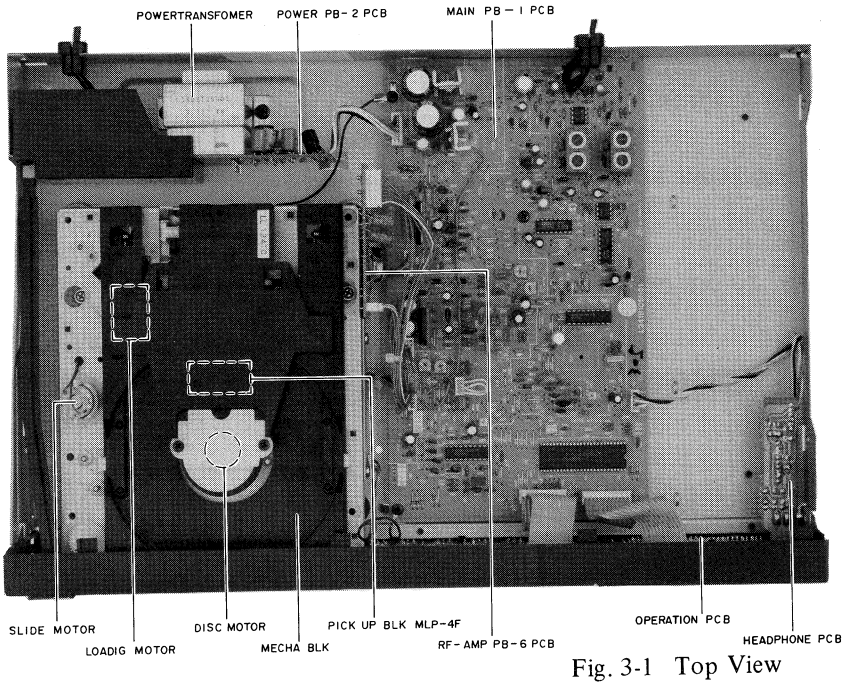


Fig. 3-1 Top View

IV. REPLACEMENT OF THE PICK-UP BLOCK

4-1. PRECAUTIONS, WHEN REPLACING THE PICK-UP BLOCK

1) The LD (Laser Diode) fixed on the pick-up block P.C. board can be damaged by static electricity or leakage from a soldering iron. Do not touch the P.C. board of the pick-up block, or use a tester to check if the electricity is on. When soldering, make sure that precautions are taken to prevent leakage from the soldering iron.
2) Avoid scratches, dirt or dust on the lens of the pick-up caused by touching with the fingers.
3) For your safety from hazardous invisible Laser Radiation, replace only with pick-up block. Do not try to repair or the any adjustment.

4-2. PROCEDURES FOR CHANGING THE PICK-UP BLOCK

1) Remove the Mecha Assembly following the Disassembly procedure.
2) Remove the E Ring (D = 2 mm) then remove the gear (Fig. 4-1).
3) Remove the four screws fixing the guide shaft (Fig. 4-1) then remove the pick-up assembly.
4) Remove the two lead connectors (8 pin, 6 pin) and two guide shafts from the pick-up assembly.
5) Remove the three screws (Fig. 4-2) optical pick-up will be free.

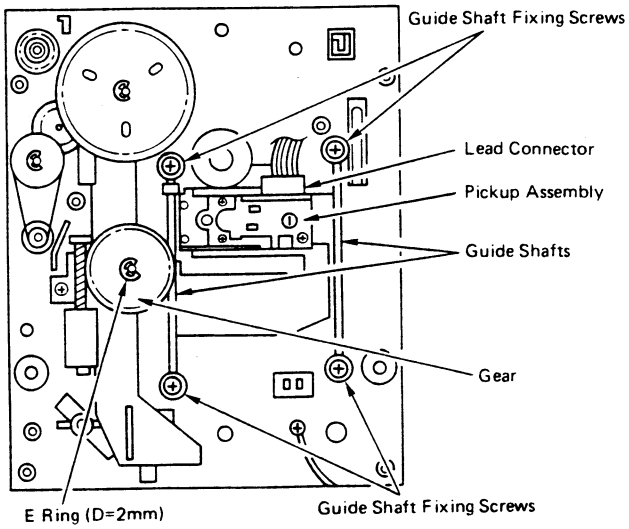


Fig. 4-1 Bottom View

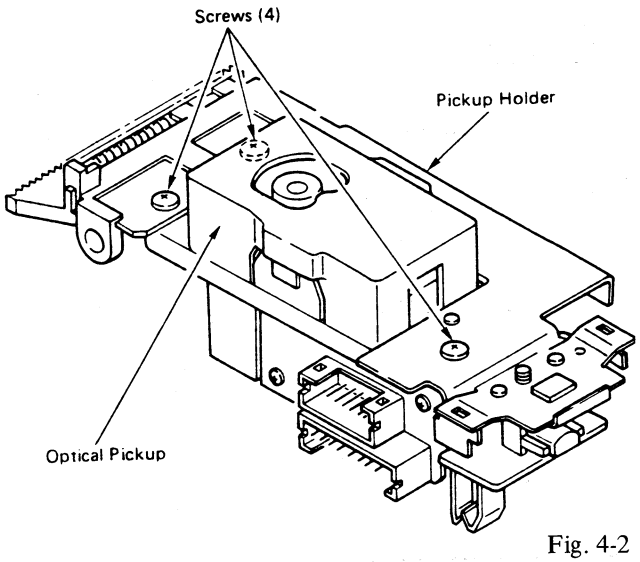


Fig. 4-2

V. REPLACEMENT OF SPINDLE MOTOR

5-1. REMOVE AND ASSEMBLY SPINDLE

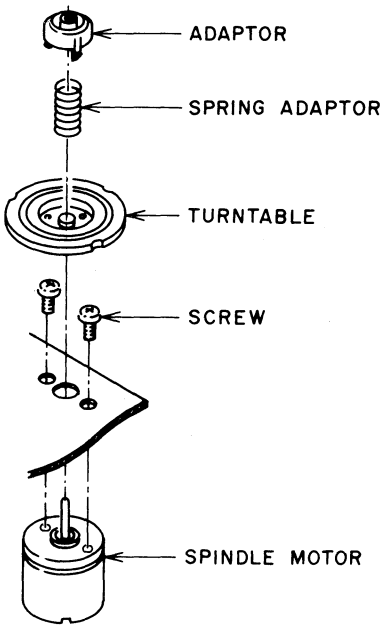


Fig. 5-1

1) Pull out the turntable, Spring adaptor and Adaptor.
2) Remove two Screws.
3) Unsolder two Spindle Motor wires.
4) Solder two wires to the new Spindle Motor.
5) Put the new spindle Motor on the chassis with two screws.
6) Press-in the turn table on to the Motor shaft.
   Adjust the turntable so that the hight of the turntable from chassis become 6.6 ± 0.1 mm (Fig. 5-2).

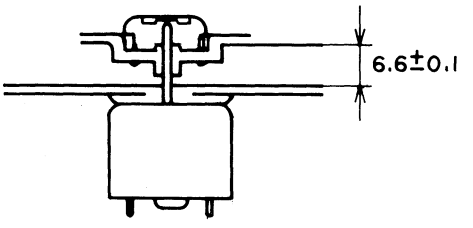


Fig. 5-2

VI. HOW TO INSTALL OF THE LOADING MECHANISM

1. Set the Disc Tray in a loading condition.
2. Set the gear (B) on the shaft (G).
   When the gear (B) is set properly, fit the Hole of the gear (B) to the hole of the CHASSIS. (Fig. 6-1)
3. Press the Lever-outsert to fully direction (D).
   (Fig. 6-1)
4. Set the gear (C) on the shaft (H).
   When the gear (C) is set properly, fit the MARK (E) to the MARK (F). (Fig. 6-1)
5. Set the gear (A) on the shaft (I).
   When the gear (A) is set properly, fit the Hole of the gear (A) to the Hole of the CHASSIS. (Fig. 6-1)

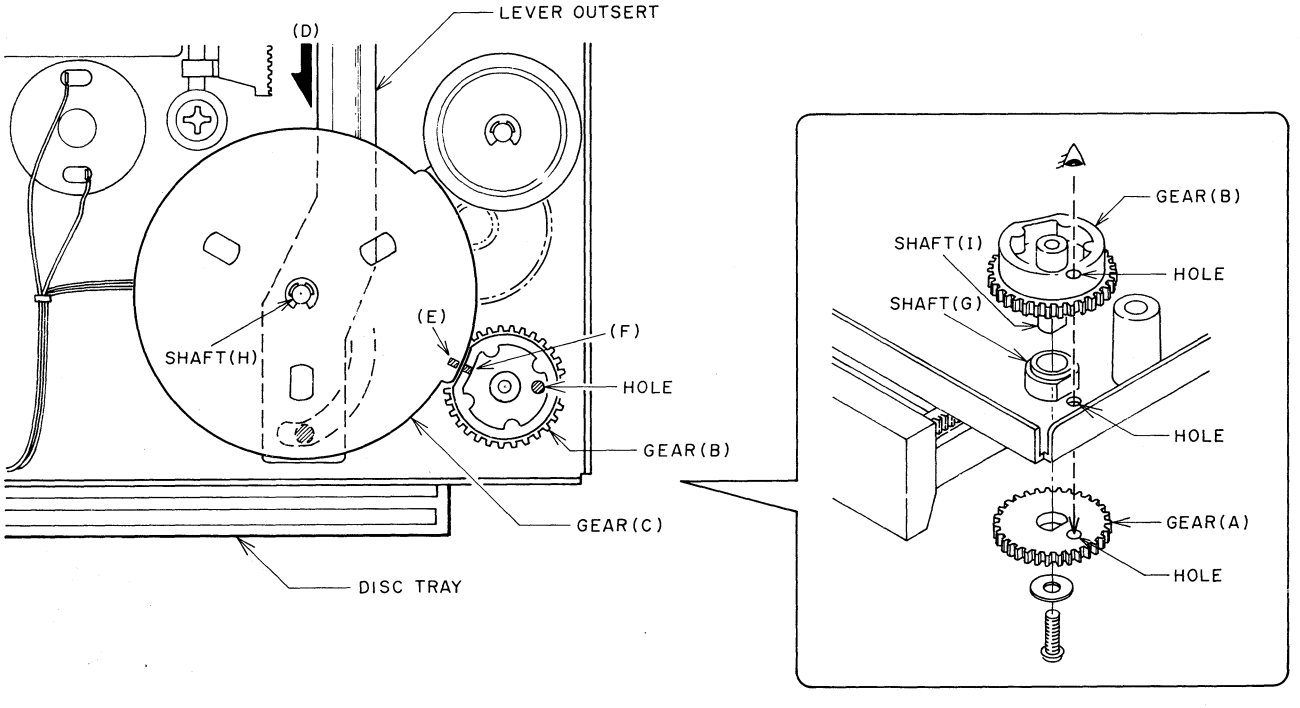


Fig. 6-1

VII. ADJUSTMENT

7-1. ADJUSTMENT WHEN CHANGING THE PICK-UP

7-1-1. Pick-up Inclination Adjustment

Fine inclination adjustment in the jitter direction is necessary after replacing the pick-up. Adjustment is performed by rotating the Jitter Direction Inclination Adjustment Screw. (Fig. 7-1)

1) Connect the oscilloscope between J202 pin ③ (HF signal) and GND.
2) Set the unit in the TEST MODE 4.
   NOTE: "How to make test Mode" has been written in the Servo Adjustment Procedure.
3) Press the (FF)/(RF) Buttons so that the Jitter Direction Adjustment Screw may situate to the middle of the Inclination Adjustment Hole. (Fig. 1-1)
4) Confirm that the HF signal (Eye-Pattern) shown in Fig. 7-2.
5) Turn right and left the Jitter Direction Adjustment Screw (Fig. 7-1) with the hexagonal driver (2.4 mm) until the HF Signal pattern change from (A) to (B) in Fig. 7-3.
6) After adjustment confirm that the HF signal level is within the range indicated below.
   Check that the HF signal pattern is clear as shown in Fig. 7-3 B.

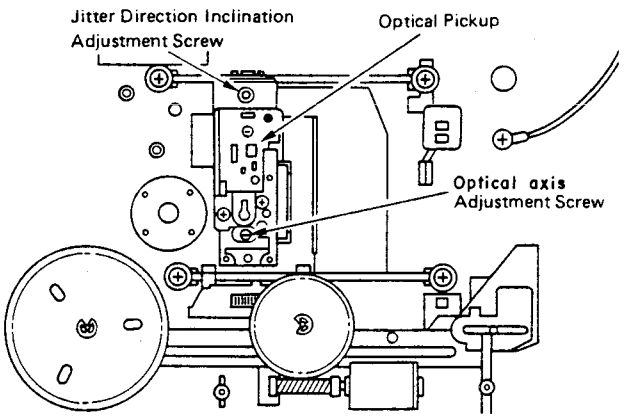


Fig. 7-1

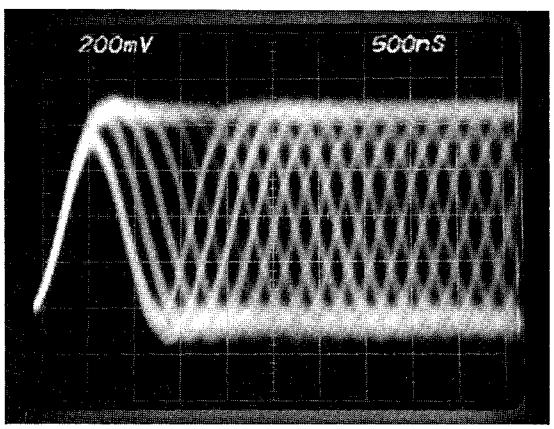
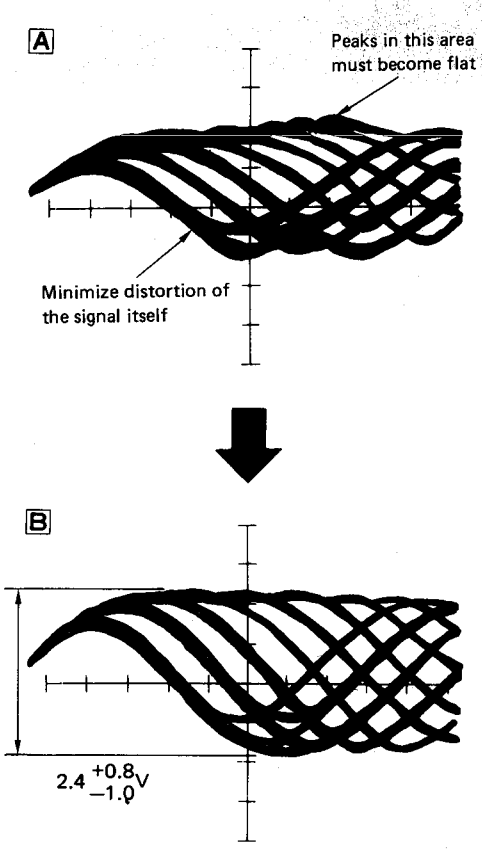


Fig. 7-2



(A): HF Signal before jitter direction adjustment
(B): HF Signal after jitter direction adjustment

Fig. 7-3

7-1-2. Optical Axis Adjustment

If the mechanical eccentricity is large when fixing the pick-up tracking errors become large.
This is turn interferres with the tracking servo, so optical axis adjustment is necessary.

1) Set the unit in TEST MODE 3.
2) Press the (FF)/(RF) Button so that the optical axis adjustment screw situate to the middle of the optical axis adjustment hall. (Fig. 1-1, Fig. 6-1)
3) Connect the oscilloscope between J202 pin ② and GND.
4) Adjust the optical axis adjustment screw so that T.E (Truck Error) signal becomes maximum. (Fig. 7-4)

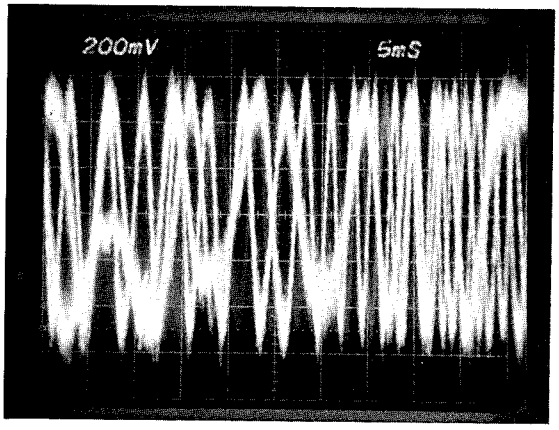


Fig. 7-4

7-1-3. Readjustment of E-F Balance

When the pick-up is changed. E-F balance adjustment must be performed. Refer to 7-2 Servo adjustment.

7-1-4. APC (Automatic Power Control) Circuity

This is a servo circuit to maintain the LD (Laser Diode) power of the pick-up. The LD power can be adjusted by the VR1 by the pick-up block. However appropriate adjustment for individual characteristics has already been made so, DO NOT touch this.

NOTE:
It is required to adjust Servo control circuit when pick-up is replaced. Adjust the circuit according to the (7-2) Servo adjustment.

7-2. SERVO ADJUSTMENT

STEP	ADJUSTMENT ITEM
1.	Test Disc
2.	Mode
3.	Test Point & Adj. Part
4.	Result & Remarks

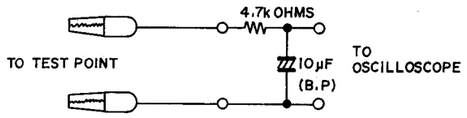
ADJ. Part →
Test Point →

1 TRACKING OFF-SET

1. SONY Type-III (AT-711881)
2. Test mode 1
3. Connect the Oscilloscope between J202 Pin 2 and GND. VR101.
4. 0 ± 5 mV (DC Rnage)

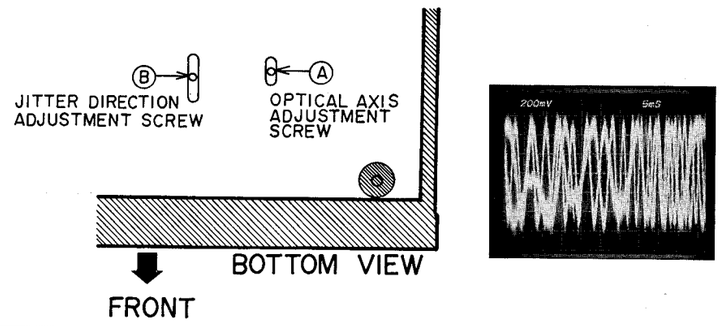
3 E-F BALANCE

1. SONY Type-III (AT-711881)
2. Test mode 3
3. Connect the Oscilloscope between J202 Pin 2 and GND. VR401
4. 0 ± 10 mV (DC range)
   - Use the following filter as shown illustration.



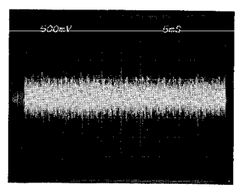
4 OPTICAL AXIS ADJUSTMENT

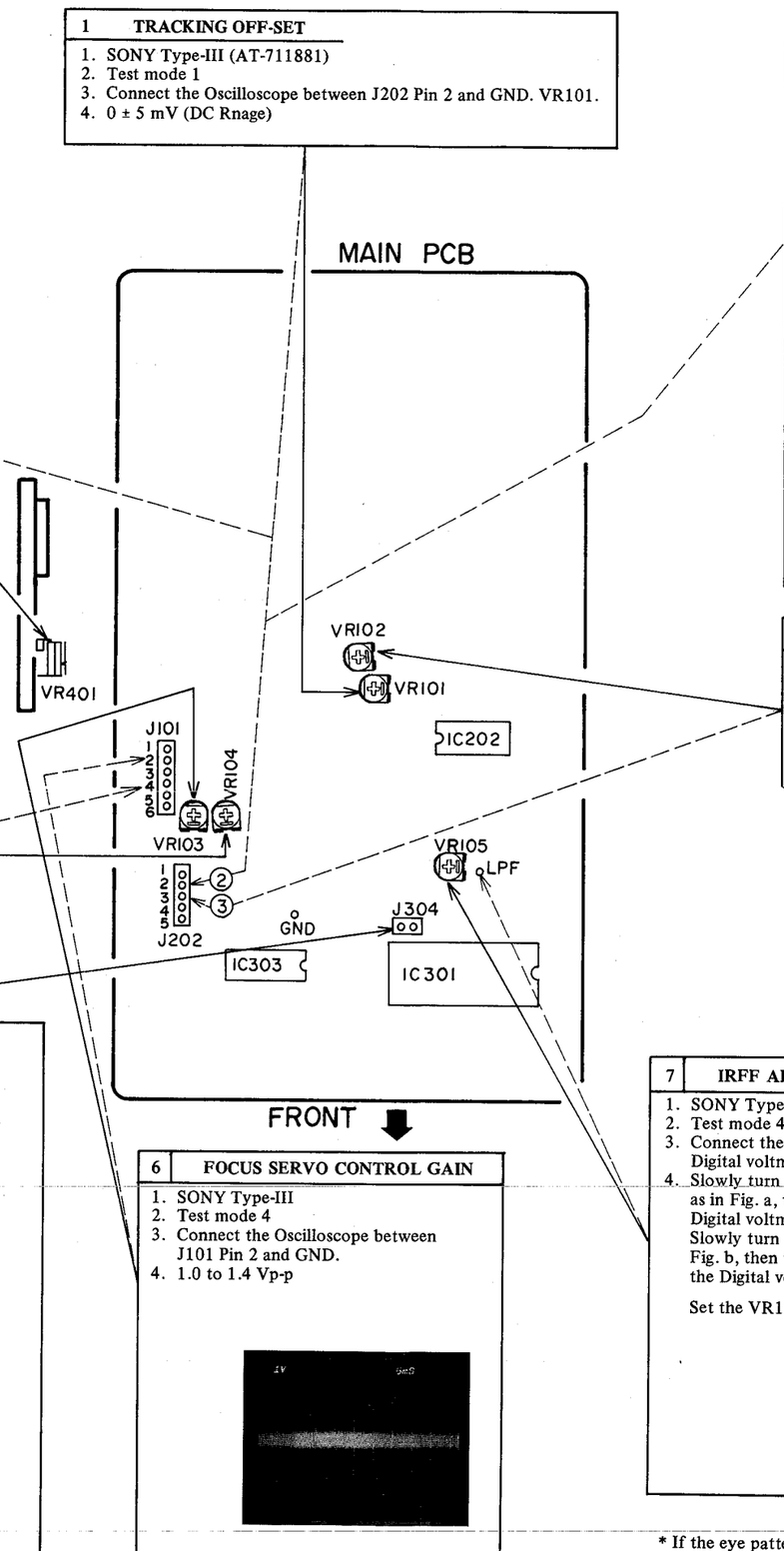
1. SONY Type-III (AT-711881)
2. Test mode 3
3. Connect the Oscilloscope between J202 Pin 2 and GND. Adjustment screw A.
4. Maximum point of the waveform.
   - Before this adjustment, reset Test mode and move the Pick-up Block by ⏭ button till the adjustment screw A appeared from the adjustment hole.



5 TRACKING SERVO CONTROL GAIN

1. SONY Type-III
2. Test mode 4
3. Connect the Oscilloscope between J101 Pin 4 and GND. VR104.
4. 900 mV to 1.2 Vp-p





2 FOCUS OFF-SET

1. SONY Type-III (AT-711881)
2. Test mode 2, Test mode 0
3. Connect the Oscilloscope between J202 Pin 3 and GND. VR102.
4. Measure voltage at Test mode 2, then set Test mode 0, adjust VR102 so that the voltage equal Test mode 2. (DC Range)

How to set the Test mode.

1. Short-circuit J304 and Power switch on.
2. Confirm that FL Display is 0 and TEST.
3. When Power switch off, reset the Test mode.

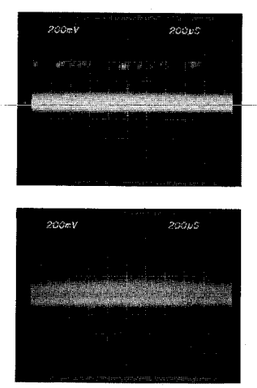
MODE	OPERATION KEY	FL DISPLAY	FUNCTION
TEST MODE 0	Power on or Stop	0 12:57	Laser Diode; OFF All servo controls; OFF
TEST MODE 1	1st press ▶/⏸	1 12:57	Laser Diode; ON
TEST MODE 2	2nd press ▶/⏸	2 12:57	Focus servo control; ON
TEST MODE 3	3rd press ▶/■	3 12:57	Focus servo control; ON Disc motor; ON
TEST MODE 4	FS button press ⏭	4 12:57	Tracking servo control; ON Slide motor; ON
	Stop ■		

6 FOCUS SERVO CONTROL GAIN

1. SONY Type-III
2. Test mode 4
3. Connect the Oscilloscope between J101 Pin 2 and GND.
4. 1.0 to 1.4 Vp-p

7 IRFF ADJUSTMENT

1. SONY Type-III
2. Test mode 4
3. Connect the Oscilloscope between LPF test Pin and and GND. Digital voltmeter, VR105.
4. Slowly turn the VR105 to counterclockwise so that the noise appeared as in Fig. a, then turn the VR105 to clockwise and measure with the Digital voltmeter at the point noise disappeared. (Voltage A)
   Slowly turn the VR105 to clockwise so that the noise appeared as in Fig. b, then turn the VR105 to counterclockwise and measure with the Digital voltmeter at the point noise disappeared. (Voltage B)
   Set the VR105 so that the voltage is at $\frac{A+B}{2}$ (V).



* If the eye pattern wave forms are not clear, adjust VR102 and screw B so that the eye pattern wave forms are at their clearest.

VIII. PARTS LIST

ATTENTION

1. When placing an order for parts, be sure to list Part No., Model No. and the description of each part. Otherwise, the non-delivery of the part or the delivery of a wrong part may result.
2. Please make sure that Part No. is correct when ordering. If not, a part different from the one you ordered may be delivered.
3. Since the parts shown in Parts List of Preliminary Service Manual may have been the subject of changes, please use this Parts List for all future reference.

HOW TO USE THIS PARTS LIST

1. This Parts List lists those parts which are considered necessary for repairs. Other common parts, such as resistors and capacitors, are listed in the "Common List for Service Parts" from which these parts should be selected and stocked.
2. The Recommended Spare Parts List shows those parts in the Parts List which are considered particularly important for service.
3. Parts not shown in the Parts List and "Common List for Service Parts" will not in principle be supplied.
4. How to read the Parts List.

a) Mechanism Block

2. HEAD BASE BLOCK

REF. NO.	PART NO.	DESCRIPTION
2-1x	BH-T2023A320A	HEAD BASE BLOCK
2-2	HP-H2206A010A	HEAD R/P PR4-8FU C
2-3	ZS-477876	PAN20×03STL CMT
2-4	ZS-536488	BID20×08STL CMT
2-5	ZG-402895	SP CS ANGLE ADJUST

SP (Service Parts) Classification

A small "x" indicates that this part is not shown in the Photo or Illustration.

This number corresponds with the individual parts index number in that figure.

This number corresponds with the Figure Number.

b) PC Board

6. MAIN PC BOARD

REF. NO.	PART NO.	DESCRIPTION
6-IC1	EI-324536	IC HD14049BP
6-IC2	EI-336801	IC MB8841-564M
6-C1A	EC-338399	C MMY V 223M 250AC [U,E,B,S]
6-C1B	EC-350949	C MMY V 223M 250DC [J]
6-C1C	EC-338397	C MMY V 223M 125AC [C,A]
6-X1	EI-318384	OSC X'TAL NC-18C

Symbols for primary destination

[A]: AAL(U.S.A.) [S]: SAA(Australia)
[B]: BEAB(England) [U]: U/T(Universal Area)
[C]: CSA(Canada) [V]: VDE(W. Germany)
[E]: CEE(Europe) [Y]: Custom Version
[J]: JPN(Japan)

SP (Service Parts) Classification

These reference symbols correspond with component symbols in the Schematic Diagrams.

The available PC Board Blocks are listed separately.

5. When Part No. is known, Parts Index at end of Parts List can be used to locate where that part is shown in Parts List by its Reference No. listed at right of Part No.

WARNING

⚠ (*) INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURE'S RECOMMENDED PARTS.

AVERTISSEMENT

⚠ (*) IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT.

1. RECOMMENDED SPARE PARTS

We suggest you to stock the following Recommended Spare Part items listed below since they can cover most of the routine service.

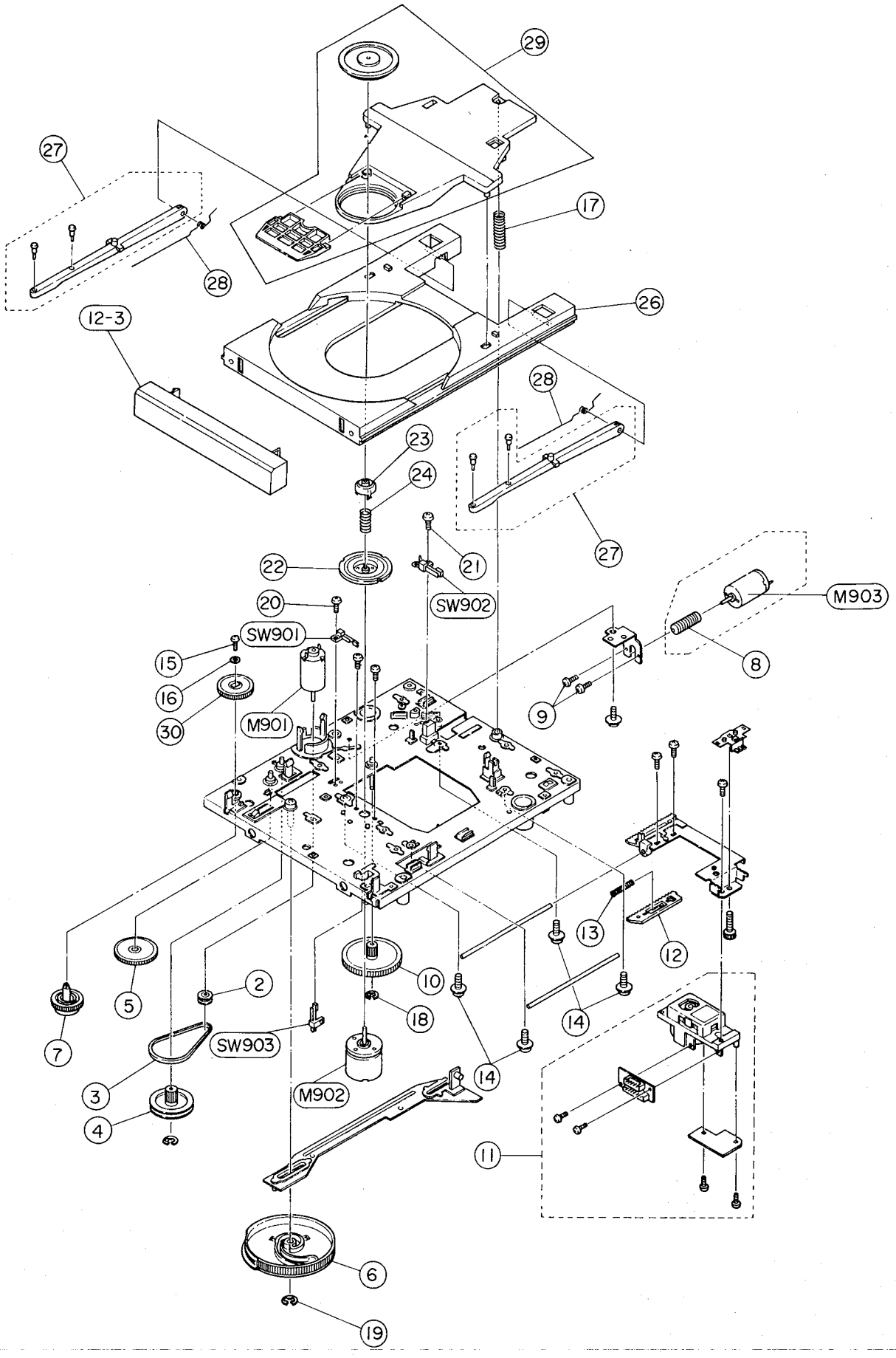
Ref. No.	Part No.	Description
1	BB-P2016A260A	:NEW 3 MECHA BLK: CD-A405 (MLP-4F)
2	BM-371552	MOTOR RD-050Y-10240
3	BM-371550	MOTOR RF-310TB-11400
4	BO-372165	PICK UP MLP-4F
5	*BT-720501	TRANS POWER K-80301B (U) [U]
6	*BT-720499	TRANS POWER PZ-J220A (B,S) [B,S]
7	*BT-720500	TRANS POWER PZ-J221A (V,E) [E,V]
8	*BT-720498	TRANS POWER TK80137 (A,C) [A,C]
9	ED-370803	D PHOTO HC-102
10	ED-361055	D SILICON DS135E-UB1
11	ED-327057	D SILICON H DS442X
12	*ED-346620	D ZENER H HZ27 2
13	ED-331198	D ZENER H HZ3 A1
14	ED-338333	D ZENER H HZ5 B2
15	*ED-306012	D ZENER H HZ7 A3
16	*EF-339905	FUSE SEMKO T 250V 200MA
17	EH-371563	FILTER LC LP FZP212X
18	EI-361233	IC CX20109
19	EI-371544	IC M5M4416P-15
20	EI-371082	IC M50421P
21	EI-371085	IC M50752-401SP
22	EI-371569	IC M50761-430P
23	EI-371079	IC M51564P
24	EI-349719	IC M5218P
25	EI-355697	IC M5221P
26	EI-371570	IC M54544L
27	EI-371556	IC NJM4556S
28	EI-371088	IC PCM56PJ
29	EI-371554	IC STA341M
30	EI-371579	IC S8054ALB
31	EI-332259	IC TC4052BP
32	*EI-371572	IC UPC7805H
33	*EI-371573	IC UPC7905H
34	EI-348409	OSC CE CSB400P 0.400000MHZ
35	EI-361222	OSC X'TAL NR-18 8.467200MHZ
36	EM-720484	IND FL PN-2566(2)
37	ES-371577	SW LEAF MSW-1353NBKP
38	ES-368075	SW LEAF MSW-17600MVCO
39	ES-368077	SW MICRO MQS-1BAN
40	*ES-371886	SW PUSH SDDLE1442A
41	*ES-720502	SW ROTRY S-J2875#21 [U]
42	ES-360576	SW TACT SKHHPM
43	ET-371075	TR DTA124XS
44	ET-371688	TR FET 2SK381 D F05
45	ET-308472	TR 2SA1115 E,F,G F05
46	ET-372199	TR 2SA1515 R
47	*ET-372198	TR 2SA934 R
48	*ET-372112	TR 2SC2060 R F05
49	ET-308141	TR 2SC2603 G F05
50	ET-338410	TR 2SC2878 A,B
51	ET-372197	TR 2SC3377 R
52	MB-202578	BELT GUM
53	MR-202576	PULLEY A
54	MR-202579	PULLEY B
55	MZ-202582H05	GEAR B
56	MZ-202581	GEAR C
57	MZ-202580	GEAR D
58	MZ-202405	GEAR S
59	MZ-202572	TURN TABLE CD
60	MZ-202426	WORM GEAR
61	SC-202557H06	DISC TRAY

2. MECHA BLOCK

Ref. No.	Part No.	Description
1	BB-P2016A260A	:NEW 3 MECHA BLK: CD-A405 (MLP-4F)
2	MR-202576	PULLEY A
3	MB-202578	BELT GUM
4	MR-202579	PULLEY B
5	MZ-202580	GEAR D
6	MZ-202581	GEAR C
7	MZ-202582H05	GEAR B
8	MZ-202426	WORM GEAR
9	ZS-365329	PAN20X03STL BDY PS3
10	MZ-202405	GEAR S
11	BO-372165	PICK UP MLP-4F
12	MZ-202514	RACK SLIDE B
13	ZG-202515	SP RACK
14	ZS-358930	SCREW B Y3824
15	ZS-283353	T2BID20X08STL CMT
16	ZW-429120	PW23X090X050STL CMT
17	ZG-202570H03	SP CLAMP
18	ZW-329299	RING E200SUP CMT
19	ZW-410051	RETAINING RING E250SUP CMT
20	ZS-365353	PAN17X04STL BDY PS3
21	ZS-370834	BID26X05STL BDY
22	MZ-202572	TURN TABLE CD
23	MZ-202573H03	ADAPTOR
24	ZG-202574H02	SP ADAPTOR
25	ZS-365313	PAN20X4.5STL BDY PS3
26	SC-202557H06	DISC TRAY
27	BZ-P2016A240A	NEW DISC HOLDER BLK CD-A405
28-1	ZG-203098	SP HOLDER L
28	ZG-203099	SP HOLDER R
29	BZ-P2016A250A	NEW DISC CLAMPER BLK CD-A405
30	MZ-202575H03	GEAR A
31	ZS-368088	PAN17X06STL BDY PS3
M901	BM-371552	MOTOR RD-050Y-10240
M902	BM-371550	MOTOR RF-310TB-11400
M903	BM-371552	MOTOR RD-050Y-10240
SW901	ES-368075	SW LEAF MSW-17600MVCO
SW902	ES-371577	SW LEAF MSW-1353NBKP
SW903	ES-368077	SW MICRO MQS-1BAN
IC401	EI-361233	IC CX20109
VR401	EV-356024	R S-FIX H RVF6P01 0.10W 104

NOTE: The parts reference numbered here except the ones in 500's are normally stocked for replacement purpose. The rest of the parts shown in this manual are not stocked since they are seldom required for routine service.

MECHA BLOCK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SW903
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M902
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3. P.C BOARD BLOCK

Ref. No.	Part No.	Description
1	BA-720488	PC MAIN BLK CD-A305

4. MAIN P.C BOARD

Ref. No.	Part No.	Description
C801	EC-366880	C EC V CUT SME 332M 16.0DC
C802	EC-363490	C EC V CUT SME 222M 16.0DC
D101	ED-327057	D SILICON H DS442X
D102	ED-361055	D SILICON DS135E-UB1
D103	ED-361055	D SILICON DS135E-UB1
D104	ED-361055	D SILICON DS135E-UB1
D105	ED-331198	D ZENER H HZ3 A1
D202	ED-327057	D SILICON H DS442X
D203	ED-327057	D SILICON H DS442X
D205	ED-327057	D SILICON H DS442X
D206	ED-327057	D SILICON H DS442X
D302	ED-327057	D SILICON H DS442X
D303	ED-327057	D SILICON H DS442X
D304	ED-327057	D SILICON H DS442X
D305	ED-327057	D SILICON H DS442X
D306	ED-327057	D SILICON H DS442X
D307	ED-327057	D SILICON H DS442X
D810	*ED-306012	D ZENER H HZ7 A3
D811	*ED-306012	D ZENER H HZ7 A3
D812	ED-327057	D SILICON H DS442X
D814	ED-327057	D SILICON H DS442X
D815	ED-338333	D ZENER H HZ5 B2
IC101	EI-371079	IC M51564P
IC102	EI-371554	IC STA341M
IC201	EI-371082	IC M50421P
IC202	EI-371544	IC M5M4416P-15
IC301	EI-371085	IC M50752-401SP
IC302	EI-371579	IC S8054ALB
IC303	EI-371569	IC M50761-430P
IC304	EI-371570	IC M54544L
IC706	EI-371088	IC PCM56PJ
IC707	EI-332259	IC TC4052BP
IC708	EI-355697	IC M5221P
IC709	EI-349719	IC M5218P
IC801	*EI-371572	IC UPC7805H
IC802	*EI-371573	IC UPC7905H
LF701	EH-371563	FILTER LC LP FZP212X
LF702	EH-371563	FILTER LC LP FZP212X
L101	EO-345924	COIL FIX 1 LAL03KH 680K
L102	EO-365303	COIL FIX 1 LAL03NA 221K
L701	EO-365311	COIL FIX 1 LAL03NA R47M
Q101	ET-308141	TR 2SC2603 G F05
Q102	ET-308141	TR 2SC2603 G F05
Q103	ET-308141	TR 2SC2603 G F05
Q104	ET-338410	TR 2SC2878 A,B
Q203	ET-372197	TR 2SC3377 R
Q204	ET-372197	TR 2SC3377 R
Q205	ET-372199	TR 2SA1515 R
Q206	ET-372199	TR 2SA1515 R
Q301	ET-308141	TR 2SC2603 G F05
Q302	ET-371075	TR DTA124XS
Q303	ET-371075	TR DTA124XS
Q304	ET-371075	TR DTA124XS
Q305	ET-371075	TR DTA124XS
Q306	ET-308141	TR 2SC2603 G F05
Q707	ET-371688	TR FET 2SK381 D F05
Q708	ET-371688	TR FET 2SK381 D F05
Q709	ET-338410	TR 2SC2878 A,B
Q710	ET-338410	TR 2SC2878 A,B
Q711	ET-308472	TR 2SA1115 E,F,G F05
Q801	*ET-372112	TR 2SC2060 R F05
Q802	*ET-372198	TR 2SA934 R
Q803	ET-308472	TR 2SA1115 E,F,G F05
Q804	ET-308141	TR 2SC2603 G F05
R240	ER-311685	R CB H S15 FS RDS 1/2W 4R7J
R280	ER-367381	R THERMO H R-LT3000 1/8S 512J
R334	ER-333586	R CB H S15 FS RDS 1/2W 3R3J
VR101	EV-366447	R S-FIX H V6EKPV(1S) 0.10W 103
VR102	EV-366447	R S-FIX H V6EKPV(1S) 0.10W 103
VR103	EV-366447	R S-FIX H V6EKPV(1S) 0.10W 103
VR104	EV-366447	R S-FIX H V6EKPV(1S) 0.10W 103
VR105	EV-371174	R S-FIX H VM6CKPVB 0.30W 104
X201	EI-361222	OSC X'TAL NR-18 8.467200MHZ
X301	EI-348409	OSC CE CSB400P 0.400000MHZ

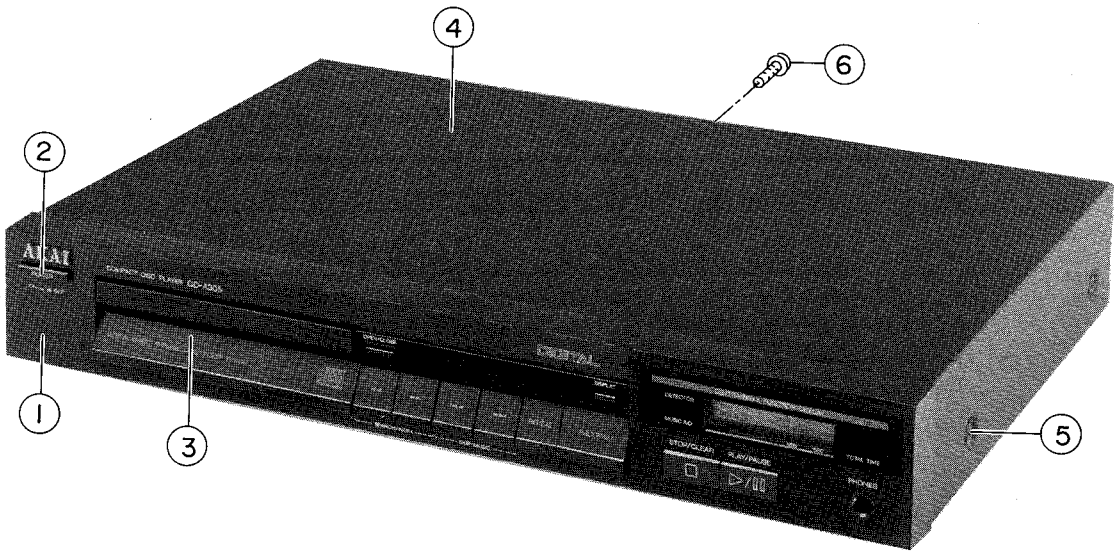
5. POWER SUPPLY P.C BOARD

Ref. No.	Part No.	Description
C851	*EC-338496	C CE V FZ 472P 400AC
C852	*EC-338496	C CE V FZ 472P 400AC
C853	*EC-338496	C CE V FZ 472P 400AC [U,C,A]
C854	*EC-338496	C CE V FZ 472P 400AC [E,V,B,S]
C855	*EC-338496	C CE V FZ 472P 400AC [E,V,B,S]
C856	*EC-365543	C CE V F 222M 400AC [E,V,B,S]
C991A	*EC-320548	C CE V F 103Z 250AC [U]
C991B	*EC-338496	C CE V FZ 472P 400AC [C,A,E,V,B,S]
D851	*ED-361055	D SILICON DS135E-UB1
D852	*ED-361055	D SILICON DS135E-UB1
D853	*ED-361055	D SILICON DS135E-UB1
D854	*ED-361055	D SILICON DS135E-UB1
D855	*ED-361055	D SILICON DS135E-UB1
D856	*ED-361055	D SILICON DS135E-UB1
D857	*ED-361055	D SILICON DS135E-UB1
D858	*ED-361055	D SILICON DS135E-UB1
D859	*ED-346620	D ZENER H HZ27 2
D860	*ED-338333	D ZENER H HZ5 B2
F851	*EF-339905	FUSE SEMKO T 250V 200MA
SW801	*ES-371886	SW PUSH SDDLE1442A
T991A	*BT-720501	TRANS POWER K-80301B (U) [U]
T991B	*BT-720498	TRANS POWER TK80137 (A,C) [A,C]
T991C	*BT-720500	TRANS POWER PZ-J221A (V,E) [E,V]
T991D	*BT-720499	TRANS POWER PZ-J220A (B,S) [B,S]

6. OPERATION P.C BOARD

Ref. No.	Part No.	Description
D901	ED-327057	D SILICON H DS442X
D902	ED-327057	D SILICON H DS442X
D903	ED-327057	D SILICON H DS442X
FL901	EM-720484	IND FL PN-2566(2)
RS901	ED-370803	D PHOTO HC-102
SW901	ES-360576	SW TACT SKHHPM
SW902	ES-360576	SW TACT SKHHPM
SW903	ES-360576	SW TACT SKHHPM
SW904	ES-360576	SW TACT SKHHPM
SW905	ES-360576	SW TACT SKHHPM
SW906	ES-360576	SW TACT SKHHPM
SW907	ES-360576	SW TACT SKHHPM
SW908	ES-360576	SW TACT SKHHPM
SW909	ES-360576	SW TACT SKHHPM
SW910	ES-360576	SW TACT SKHHPM

FINAL ASSEMBLY BLOCK



7. HEADPHONE P.C BOARD

Ref. No.	Part No.	Description
IC951	EI-371556	IC NJM4556S
J951	EJ-355012	PHONE J 3P HLJ0541-010 6.3

8. ASSEMBLY BLOCK

Ref. No.	Part No.	Description
1	SA-720490	FOOT
2	ZS-354869	ST BR30X06STL CMT C080
3A	*EW-374894	AC CORD 2C VM-0129A,VFF U/T [U]
3B	*EW-372123	AC CORD 2C VM-0238P SPT-1 UC [C,A]
3C	*EW-347897	AC CORD 2 CORES VM0364,LCFL EV [E,V]
3D	*EW-346249	AC CORD 2 CORES LCFL2X0.75 B [B]
3E	*EW-347898	AC CORD 2 CORES VM-0436,LCFL S [S]
4	EZ-371605	BUSH CORD 2271
5	ZW-241200	RV NYL30X080 BL [U]
6	MZ-720429	JOINT POWER CD-A305
7	EW-720796	CORD RCA
VS901	*ES-720502	SW ROTRY S-J2875#21 [U]

9. FINAL ASSEMBLY BLOCK

Ref. No.	Part No.	Description
1	BD-720430	PANEL FRONT BLK CD-A305
2	SK-720418	KNOB POWER CD-M512
3	SP-721079	PANEL TRAY CD-A305
4	SP-720427	UPPER COVER
5	ZS-365682	CT BID40X05STL BNI
6	ZS-320906	ST BR30X06STL CMT

SYMBOL FOR COLOR VARIATION

S : SILVER
B : BLACK

10. REMOTE CONTROL UNIT RC-C305

Ref. No.	Part No.	Description
1	AX-720425	REMOTE CONTROL UNIT RC-C305

INDEX

Part No.	Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.
AX-720425	1	EI-348409	34	ET-371075	Q303		
BA-720488	1	EI-348409	X301	ET-371075	Q304		
BB-P2016A260A	1	EI-349719	24	ET-371075	Q305		
BB-P2016A260A	1	EI-349719	IC709	ET-371688	44		
BD-720430	1	EI-355697	25	ET-371688	Q707		
BM-371550	3	EI-355697	IC708	ET-371688	Q708		
BM-371550	M902	EI-361222	35	ET-372112	48		
BM-371552	2	EI-361222	X201	ET-372112	Q801		
BM-371552	M901	EI-361233	18	ET-372197	51		
BM-371552	M903	EI-361233	IC401	ET-372197	Q203		
BO-372165	4	EI-371079	23	ET-372197	Q204		
BO-372165	11	EI-371079	IC101	ET-372198	47		
BT-720498	8	EI-371082	20	ET-372198	Q802		
BT-720498	T991B	EI-371082	IC201	ET-372199	46		
BT-720499	6	EI-371085	21	ET-372199	Q205		
BT-720499	T991D	EI-371085	IC301	ET-372199	Q206		
BT-720500	7	EI-371088	28	EV-356024	VR401		
BT-720500	T991C	EI-371088	IC706	EV-366447	VR101		
BT-720501	5	EI-371544	19	EV-366447	VR102		
BT-720501	T991A	EI-371544	IC202	EV-366447	VR103		
BZ-P2016A240A	27	EI-371554	29	EV-366447	VR104		
BZ-P2016A250A	29	EI-371554	IC102	EV-371174	VR105		
EC-320548	C991A	EI-371556	27	EW-346249	3D		
EC-338496	C851	EI-371556	IC951	EW-347897	3C		
EC-338496	C852	EI-371569	22	EW-347898	3E		
EC-338496	C853	EI-371569	IC303	EW-372123	3B		
EC-338496	C854	EI-371570	26	EW-374894	3A		
EC-338496	C855	EI-371570	IC304	EW-720796	7		
EC-338496	C991B	EI-371572	32	EZ-371605	4		
EC-363490	C802	EI-371572	IC801	MB-202578	52		
EC-365543	C856	EI-371573	33	MB-202578	3		
EC-366880	C801	EI-371573	IC802	MR-202576	53		
ED-306012	15	EI-371579	30	MR-202576	2		
ED-306012	D810	EI-371579	IC302	MR-202579	54		
ED-306012	D811	EJ-355012	J951	MR-202579	4		
ED-327057	11	EM-720484	36	MZ-202405	58		
ED-327057	D101	EM-720484	FL901	MZ-202405	10		
ED-327057	D202	EO-345924	L101	MZ-202426	60		
ED-327057	D203	EO-365303	L102	MZ-202426	8		
ED-327057	D205	EO-365311	L701	MZ-202514	12		
ED-327057	D206	ER-311685	R240	MZ-202572	59		
ED-327057	D302	ER-333586	R334	MZ-202572	22		
ED-327057	D303	ER-367381	R280	MZ-202573H03	23		
ED-327057	D304	ES-360576	42	MZ-202575H03	30		
ED-327057	D305	ES-360576	SW901	MZ-202580	57		
ED-327057	D306	ES-360576	SW902	MZ-202580	5		
ED-327057	D307	ES-360576	SW903	MZ-202581	56		
ED-327057	D812	ES-360576	SW904	MZ-202581	6		
ED-327057	D814	ES-360576	SW905	MZ-202582H05	55		
ED-327057	D901	ES-360576	SW906	MZ-202582H05	7		
ED-327057	D902	ES-360576	SW907	MZ-720429	6		
ED-327057	D903	ES-360576	SW908	SA-720490	1		
ED-331198	13	ES-360576	SW909	SC-202557H06	61		
ED-331198	D105	ES-360576	SW910	SC-202557H06	26		
ED-338333	14	ES-368075	38	SK-720418	2		
ED-338333	D815	ES-368075	SW901	SP-720427	4		
ED-338333	D860	ES-368077	39	SP-721079	3		
ED-346620	12	ES-368077	SW903	ZG-202515	13		
ED-346620	D859	ES-371577	37	ZG-202570H03	17		
ED-361055	10	ES-371577	SW902	ZG-202574H02	24		
ED-361055	D102	ES-371886	40	ZG-203098	28-1		
ED-361055	D103	ES-371886	SW801	ZG-203099	28		
ED-361055	D104	ES-720502	41	ZS-283353	15		
ED-361055	D851	ES-720502	VS901	ZS-320906	6		
ED-361055	D852	ET-308141	49	ZS-354869	2		
ED-361055	D853	ET-308141	Q101	ZS-358930	14		
ED-361055	D854	ET-308141	Q102	ZS-365313	25		
ED-361055	D855	ET-308141	Q103	ZS-365329	9		
ED-361055	D856	ET-308141	Q301	ZS-365353	20		
ED-361055	D857	ET-308141	Q306	ZS-365682	5		
ED-361055	D858	ET-308141	Q804	ZS-368088	31		
ED-370803	9	ET-308472	45	ZS-370834	21		
ED-370803	RS901	ET-308472	Q711	ZW-241200	5		
EF-339905	16	ET-308472	Q803	ZW-329299	18		
EF-339905	F851	ET-338410	50	ZW-410051	19		
EH-371563	17	ET-338410	Q104	ZW-429120	16		
EH-371563	LF701	ET-338410	Q709				
EH-371563	LF702	ET-338410	Q710				
EI-332259	31	ET-371075	43				
EI-332259	IC707	ET-371075	Q302				

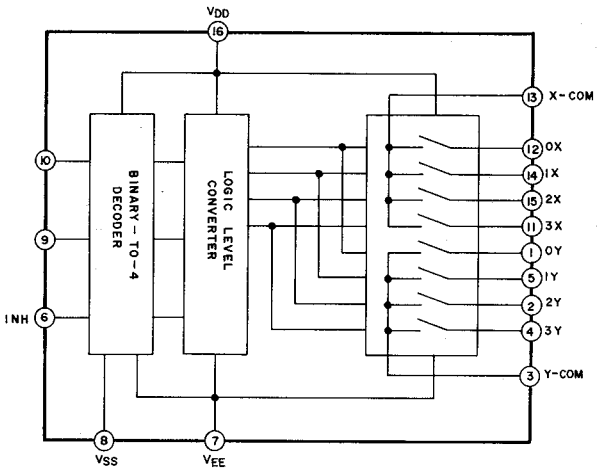
ABBREVIATIONS (COMPACT DISC)

ABBREVIATION	EXPLANATION	ABBREVIATION	EXPLANATION
A-D	Analog to Digital (Convertor)	Mb	Mega Bits
ADC	Analog to Digital (Convertor)	MDA	Motor Drive Amplifier
BCD	Binary Code Decimal	MFM	Modified Frequency Modulation
BPI	Bits per Inch	MM	Mono-stable Multivibrator
CD	Compact Disc	M^2FM	Modified Modified Frequency Modulation
CIRC	Cross Interleaving & Reed Solomon Coding	MOD2	Modulo 2 (Addition)
CLV	Constant Linear Velocity	MP	Microprocessor
CP	Clock Pulses	MSB	Most Significant Bit
CRCC	Cyclic Redundancy Check Codes	NA	Numerical Aperture
D Level	Decision Level	NRZ	Non Return to Zero
D-A	Digital to Analog (Convertor)	NRZ-I	Non Return to Zero Inverted
DAC	Digital to Analog (Convertor)	P	Parity Data
DAD	Digital Audio Disc	PAM	Pulse Amplitude Modulation
DEM	Dynamic Element Matching	PCM	Pulse Code Modulation
DPD	Differential Phase Detection	PD	Phase Detector
DSV	Digital Sum Value	PE	Phase Encode
EFM	Eight to fourteen Modulation	PLL	Phase Locked Loop
EX-OR	EXclusive OR	PNM	Pulse Number Modulation
FCI	Flux Changes per Inch	PPM	Pulse Phase Modulation
FIR	Finite Impulse Response	PWM	Pulse Width Modulation
FP	Front Pulse	Q	Parity Data
FPG	Front Pulse Gate	R,R_1,R_2, etc.	Data for Right Channel
f	Frequency of Sampling	RAM	Random Access Memory
GF	Galois Field	RPG	Rear Pulse Gate
H&V (Parity)	Horizontal & Vertical	SCOOP	Self Coupled Optical Pick-up
IIR	Infinite Impulse Response	S&H	Sample & Hold
kb	Kilo Bits	S/N	Signal to Noise Ratio
L,L_1,L_2, etc.	Data for Left Channel	SSG	Standard Signal Generator
LPF	Low Pass Filter	SYS CON	SYStem CONtrol
LSB	Least Significant Bit		

AKAI MODEL CD-A305

SCHEMATIC DIAGRAM AND PC BOARDS

M4052BP MULTIPLEXER



TRUTH TABLE

CONTROL INPUTS			"ON" CHANNEL
INHIBIT	B	A	
L	L	L	0X, 0Y
L	L	H	1X, 1Y
L	H	L	2X, 2Y
L	H	H	3X, 3Y
H	*	*	NONE

* DON'T CARE

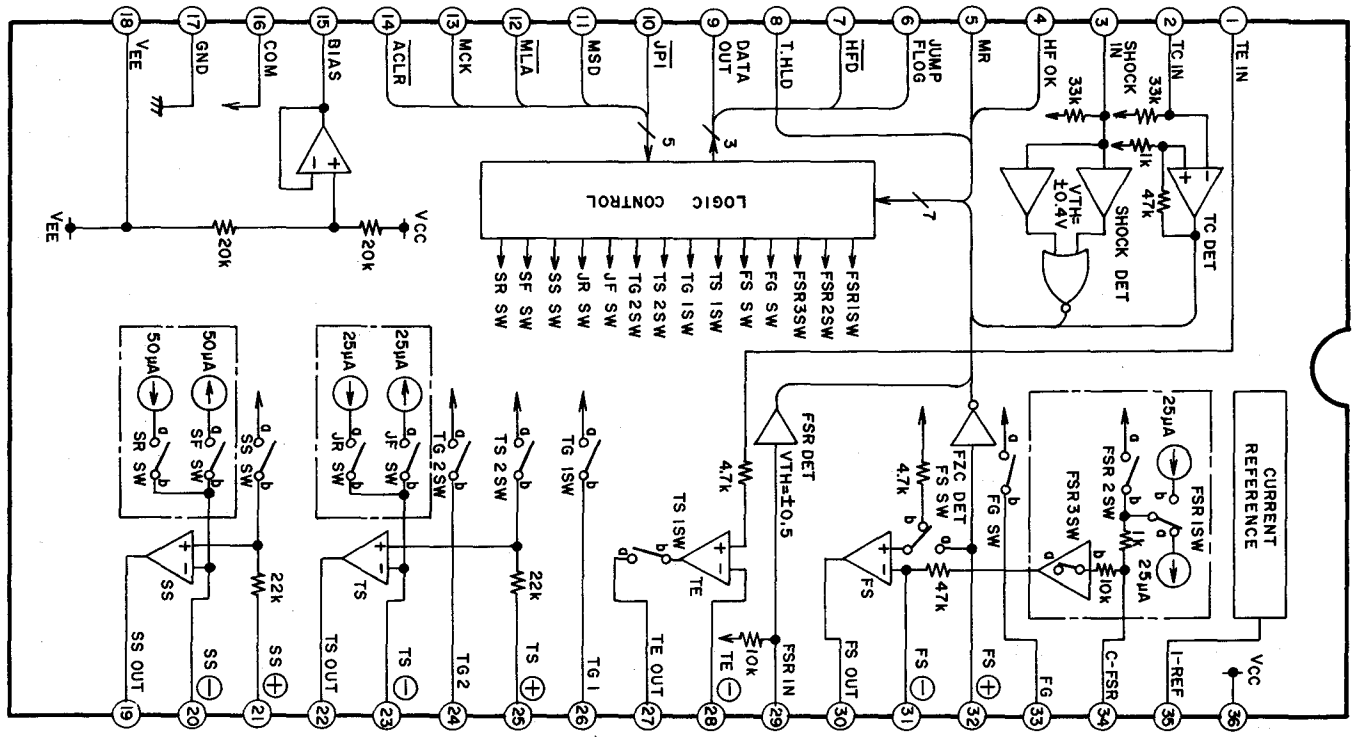
M50421P (SIGNAL PROCESSOR)

PIN NO.	NAME	INPUT/ OUTPUT	FUNCTION	PIN NO.	NAME	INPUT/ OUTPUT	FUNCTION
1	DDSCK	O	Delayed DSCK. LRCK Latch clock	34	SBCS	O	Sub Code Sch output
3	EMP	O	Enphasis Code output	35	SBCR	O	Sub Code Rch output
4	PWM1	O	Power Disc Motor PWM output 1	36	SBCQ	O	Sub Code Qch output
5	PWM2	O	Power Disc Motor PWM output 2	37	SBCP	O	Sub Code Pch output
6	TEST	I	Test Mode Select input	38	RAS	O	Row Address Stroke output
7	DASEL	I	D/A Interface control input	40	RDB2	I/O	External memory address input output 2
8	DFPAS	I	Degital Filter control input	42	RDB1	I/O	External memory address input output 1
9	IINH	I	Interporation forbidden mode select input	43	RDB4	I/O	External memory address input output 4
10	MSD	I	Micro computer interface serial data input	44	CAS	O	Column Address Stroke signal output
11	MCK	I	Microcomputer interface shift lock input	45	RDB3	I/O	External memory address input output 3
12	MLA	I	Microcomputer interface Data latch clock input	46	WE	O	Right enable signal output
13	ACLR	I	Micro computer interface Resister clear input	48	RAD1	O	External memory address output 1
14	HFD	I	Reproducing short signal input	49	RAD2	O	External memory address output 2
15	HF	I	Reproducing signal input	50	RAD3	O	External memory address output 3
16	IBEE	I	Detection/PLL reference current input	51	RAD7	O	External memory address output 7
17	TLC	O	Slice level control output	52	RAD4	O	External memory address output 4
18	LPF	I/O	PLL loop filter connect	53	RAD5	O	External memory address output 5
19	SYCLK	O	Frame Sync. statu outputs	54	RAD6	O	External memory address output 6
20	VDD2	I	Analog Power	55	RAD0	O	External memory address output 0
22	DRD	O	Law Disc rotate status output	56	VDD1	I	Power
23	EFFK	O	EFM Frame clock output	57	EST2	O	Error status 2
24	SCOR	O	Sub Code Sync. signal output.	58	EST1	O	Error status 1
25	CRCF	O	Sub Code Q CR check output	59	C846	O	Clock output 8.4672MHz
26	SCCK	I	Shift clock (sub code serial output) input	60	C423	O	Clock output 4.2336MHz
27	SCOE2	I	Sub code parallel output P~Sch enable input	61	C16MI	I	1/2 divider input
28	SCOE1	I	Sub code parallel output T~Wch enable input	62	C8M0	O	1/2 divider
29	Vss2	I	GND	63	XI	I	Xtal oscillator input
30	SBCW	O	Sub Code Wch output	64	X0	O	Xtal oscillator output
31	SBCV	O	Sub Code Vch output	65	VSS1	I	GND
32	SBCU	O	Sub Code Uch output	66	DOFK	O	OSC Frame clock output 7.35KHz
33	SBCT	O	Sub Code Tch output	67	DO	O	D/A converter serial
				69	WDCK	O	D/A converter word clock
				70	LRCK	O	D/A converter left, right clock
				72	DSCK	O	D/A converter shift clock

M50752-401SP SYSTEM CONTROL (MICRO COMPUTER)

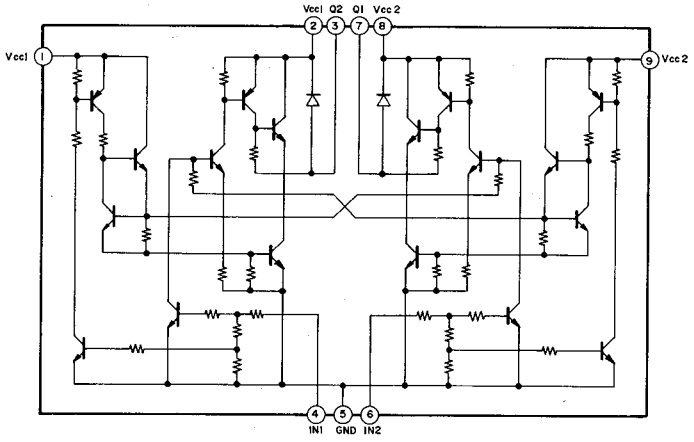
PIN NO.	SYMBOL	I/O	DISCRIPTION
1	OPEN	O	LOADING MOTOR OPEN
2	CLOSE	O	LOADING MOTOR CLOSE
3	$\overline{JPI}$	O	1 TRACK JUMP CONTROL SIGNAL OUTPUT
4	MSD	O	MICRO COMPUTER SERIAL DATA TRANSFER CLOCK
5	MCK	O	MICRO COMPUTER SERIAL DATA TRANSFER
6	$\overline{MLA}$	O	MICRO COMPUTER SERIAL DATA LATCH
7	MUTE	–	NOT USED
8	$\overline{ACK}$	–	NOT USED
9	NC	–	NOT USED
10	DATA IN	I	INTERNAL STATUS INPUT
11	SYCLK	I	FRAME SYNC. STATUS INPUT
12	DRD	I	LAW DISC ROTATE STATUS INPUT
13	SCOR	I	SUB CODE SYNC. SIGNAL INPUT
14	CRCF	I	SUB CODE QCR CHECK INPUT
15	SUBQ	I	SUB CODE Q SIGNAL INPUT
16	KD4	–	
17	$\overline{TEST}$	I	TEST MODE SELECT INPUT
18	$\overline{STB}$	–	
19	$\overline{EFFK}$	I	EFM FRAME CLOCK INPUT
20	NC	–	NOT USED
21	CNVSS	–	GND
22	$\overline{RESET}$	I	RESET
23	XIN	I	XTAL OSCILLATOR INPUT
24	XOUT F	–	NOT USED
25	XOUT S	–	NOT USED
26	VSS	–	GND
27	XCIN	I	XTAL OSCILLATOR INPUT
28	XCOUT	–	NOT USED
29	KD3	I	KEY INPUT
30	KD2	I	
31	KD1	I	
32	KD0	I	
33	ϕ	–	NOT USED
34	VP	–	–27V
35	LD ON	O	LASER CONTROL SIGNAL OUT
36	G7	O	DISPLAY SIGNAL OUT
37	G6	O	
38	G5	O	
39	G4	O	
40	G3	O	DISPLAY SIGNAL OUT/KEY OUT
41	G2	O	
42	G1	O	
43	i	O	DISPLAY SIGNAL OUT
44	g	O	
45	f	O	
46	e	O	
47	d	O	
48	c	O	
49	b	O	
50	a	O	
51	VCC	–	+5V
52	VCC	–	

M51564P (PICK UP SERVO)



Pin No.	NAME	Function Block	Input/Output	Function
1	TE IN	Pre. Amp input	I	Tracking error signal input
2	TC IN	Pre. Amp input	I	Track cross signal input
3	SHOCK IN	Pre. Amp input	I	SHOCK detection circuit input
4	HF OK	Pre. Amp input	I	HFOK signal input
5	MR	Pre. Amp input	I	Disc mirror detection signal input
6	JUMP HAG	Micro computer I/O	O	TS OFF·JFJR·BRAKE output (JUMP Mode)
7	HFD	Micro computer I/O	O	MR input = "1" and Track servo loop off HFD = "1"
8	T·HLD	TRACK SERVO	I	TS 1 SW dilect control
9	DATA OUT	Micro computer input	O	Internal status output
10	JP1	Micro computer input	I	1 track jump control signal input
11	MSD	Micro computer input	I	Micro computer serial data transfer clock
12	MLA	Micro computer input	I	Micro computer serial data latch
13	MCK	Micro computer input	I	Micro computer serial data transfer
14	ACLR	Micro computer input	I	Internal register flip-flop all clear
15	BIAS	Power	O	Vcc/2 Bias power output
16	COM	Power	I	COMMON ± Power → GND, one level power → BIAS
17	GND	Power	I	GND pin
18	VEE	Power	I	Minus power, one level power → GND
19	SS OUT	SLIDE SERVO	O	Operational amplifier SS output
20	SS	SLIDE SERVO	I	Operational amplifier SS invert input
21	SS	SLIDE SERVO	I	Operational amplifier SS non-invert input
22	TS OUT	TRACK SERVO	O	Operational amplifier TA output
23	TS	TRACK SERVO	I	Operational amplifier TA invert input
24	TG 2	TRACK SERVO	—	Track gain change switch TG 2 output
25	TS	TRACK SERVO	I	Operational amplifier TA non-invert input
26	TG 1	TRACK SERVO	—	Track gain change switch TG 1 output
27	TE OUT	TRACK SERVO	O	Operational amplifier TE output
28	TE	TRACK SERVO	I	Operational amplifier TE invert input
29	FSR IN	FOCUS SERVO	I	Focus research voltage level detector input
30	FS OUT	FOCUS SERVO	O	Operational amplifier FA output
31	FS	FOCUS SERVO	I	Operational amplifier FA invert input
32	FS	FOCUS SERVO	I	Operational amplifier FA non-invert input
33	FG	FOCUS SERVO	—	Focus gain change switch FG output
34	C·FSR	FOCUS SERVO	—	Focus search wave form time constant condenser
35	I-REF	FOCUS SERVO	I	Connect current setup resistor
36	VCC	Power	I	PLUS power

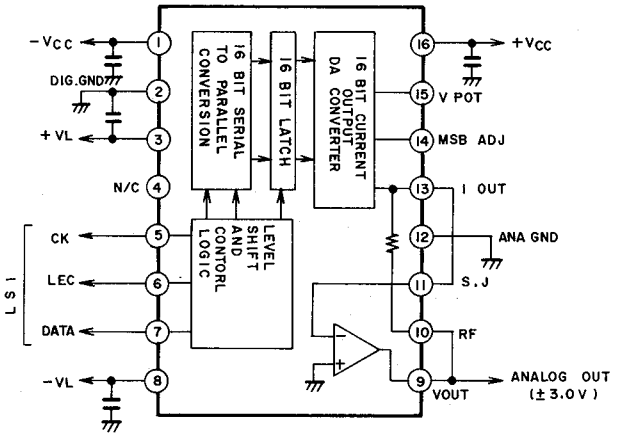
M54544L LOADING DRIVE



TRUTH TABLE

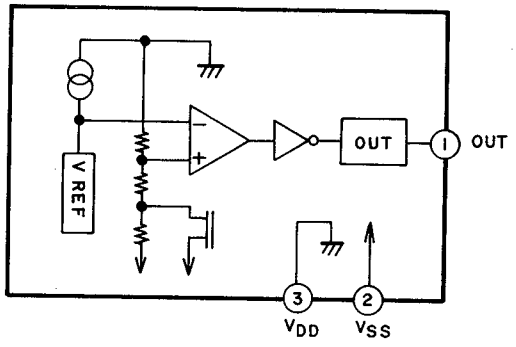
INPUT		OUTPUT		REMARKS
1	2	1	2	
0	0	"OFF" state	"OFF" state	–
1	0	1	0	NORMAL ROTATE
0	1	0	1	RIVERSE ROTATE
1	1	0	0	BRAKE

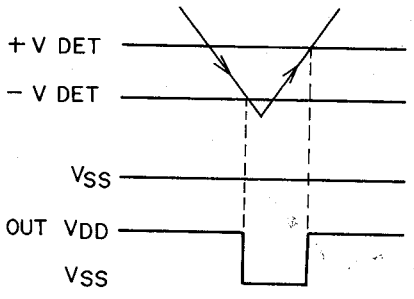
PCM-56PJ 16 BIT D/A CONVERTER



PIN NO.	FUNCTION		PIN NO.	FUNCTION	
1	-Vcc	ANALOG ⊖ B	16	+Vcc	ANALOG ⊕ B
2	DIG GND	DEGITAL GND	15	VPOT	POTENTIAL METER
3	+VL	LOGIC ⊕ B	14	MSB ADJ	MSB ADJUSTMENT
4	N C	NO CONNECTION	13	Iout	I OUT
5	CK	CLOCK IN	12	ANA GND	ANALOG GND
6	LEC	LATCH ENABLE CONTROL IN	11	S.J	SUMMING JUNCTION
7	DATA	DATA IN	10	RF	FB REGISTER
8	-VL	LOGIC ⊖ B	9	Vout	V OUT

S8054ALB VOLTAGE DETECTOR





LOCATION OF COMPONENTS

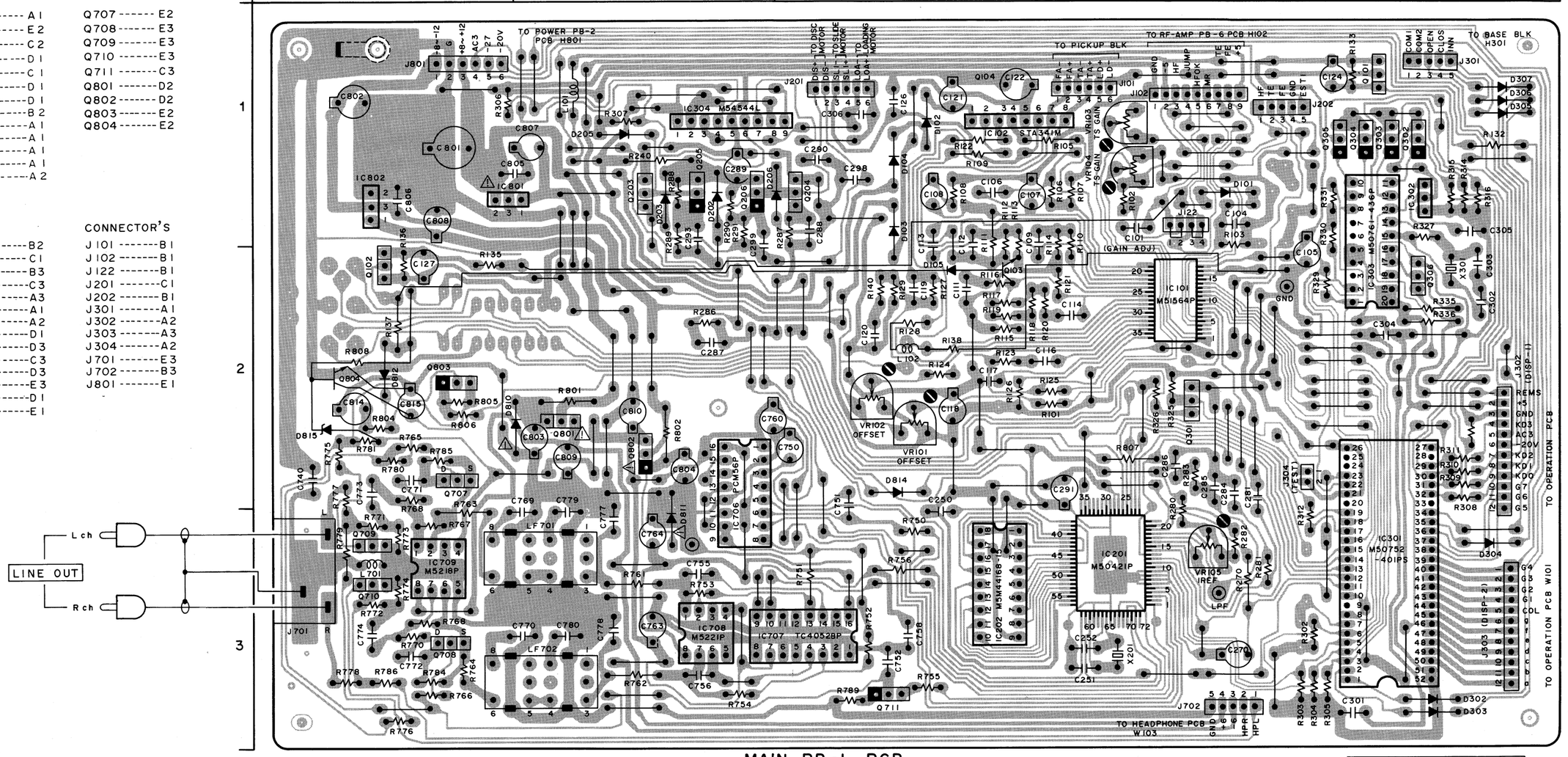
TR'S

Q101 ------- A1	Q707 ------ E2
Q102 ------- E2	Q708 ------ E3
Q103 ------- C2	Q709 ------- E3
Q203 ------- D1	Q710 ------- E3
Q204 ------- C1	Q711 ------- C3
Q205 ------- D1	Q801 ------- D2
Q206 ------- D1	Q802 ------- D2
Q301 ------- B2	Q803 ------- E2
Q302 ------- A1	Q804 ------- E2
Q303 ------- A1	
Q304 ------- A1	
Q305 ------- A1	
Q306 ------- A2	

IC'S

IC101 ------ B2	J101 ------- B1
IC102 ------ C1	J102 ------- B1
IC201 ------ B3	J122 ------- B1
IC202 ------ C3	J201 ------- C1
IC301 ------ A3	J202 ------- B1
IC302 ------ A1	J301 ------- A1
IC303 ------ A2	J302 ------- A2
IC304 ------ D1	J303 ------- A3
IC706 ------ D3	J304 ------- A2
IC707 ------ C3	J701 ------- E3
IC708 ------ D3	J702 ------- B3
IC709 ------ E3	J801 ------- E1
IC801 ------ D1	
IC802 ------ E1	

CONNECTOR'S



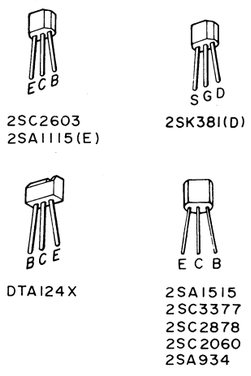
MAIN PB-1 PCB

NPN TRANSISTOR (B C E)

PNP TRANSISTOR (B C E)

FET (S G D)

Q101, Q102 Q103, Q301 --------- 2SC2603 Q306, Q804	Q801 ---------- 2SC2060
Q709, 710 ---------- 2SC2878	Q802 ---------- 2SA934
Q302, Q303 Q304, Q305 --------- DTA124XS	Q711, Q803 --------- 2SA1115(E)
Q205, Q206 --------- 2SA1515	Q707, Q708 --------- 2SK381(D)
Q203, Q204 --------- 2SC3377	



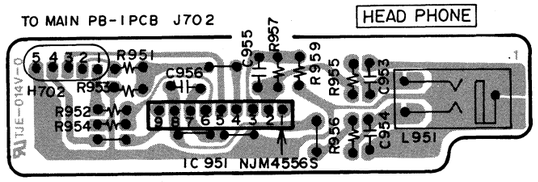
PICK UP TYPE
MLP-4C

WARNING: ⚠ INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

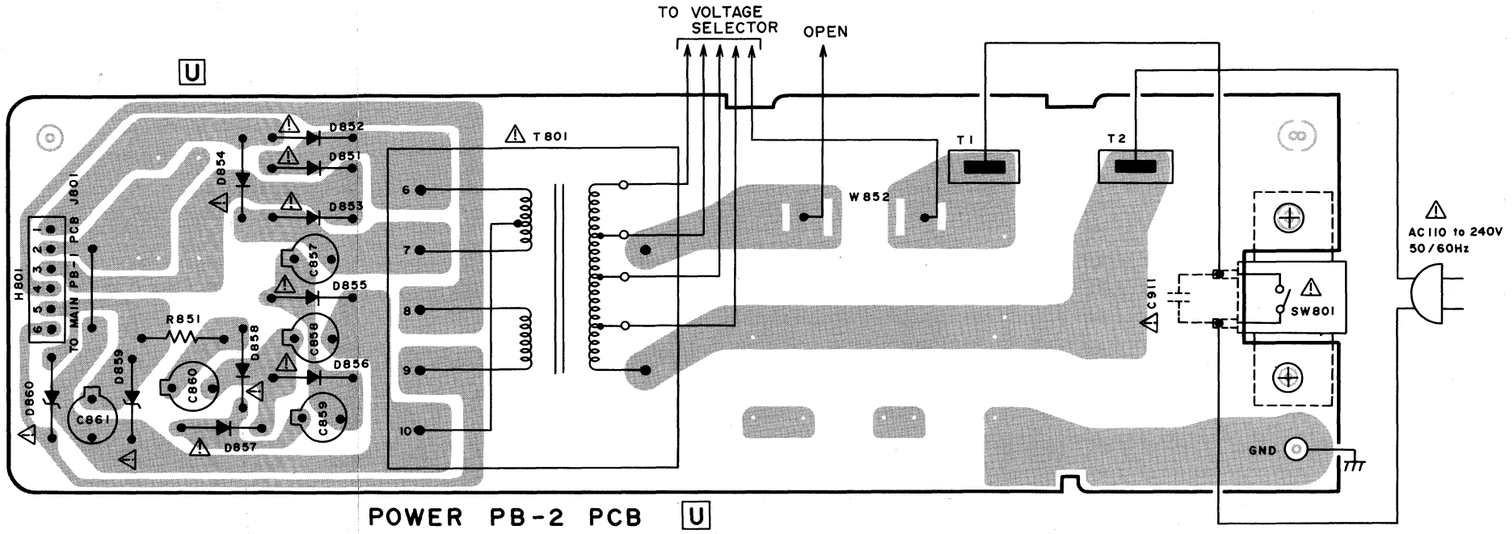
AVERTISSEMENT: ⚠ IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDÉES PAR LE FABRICANT

WARNING: ⚠ INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

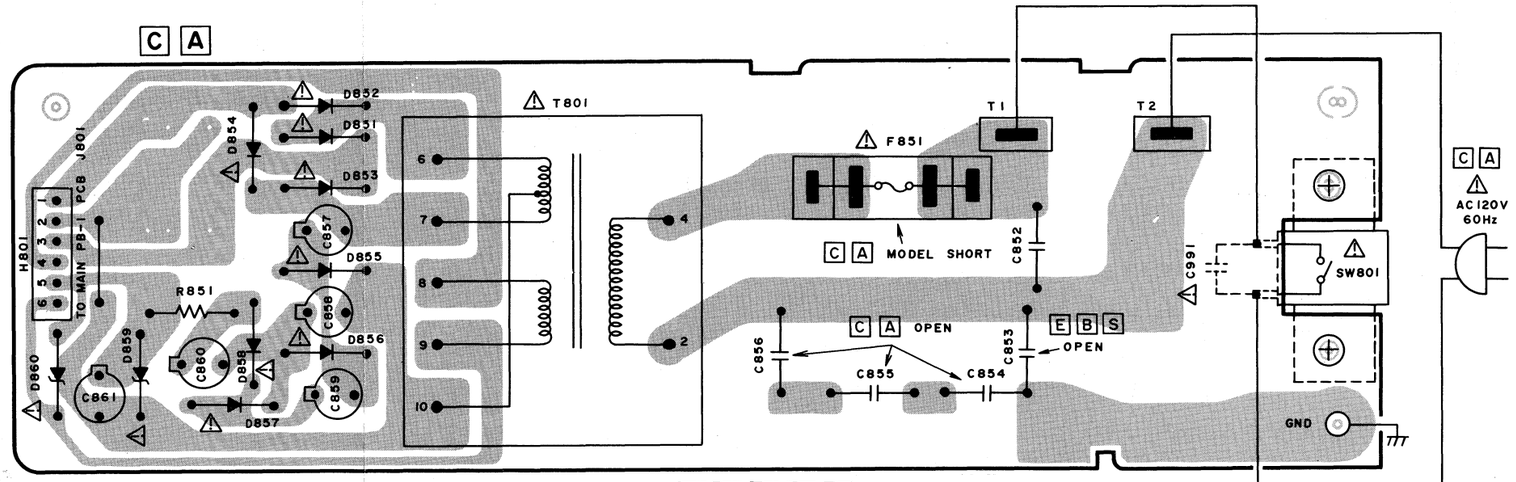
AVERTISSEMENT: ⚠ IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT



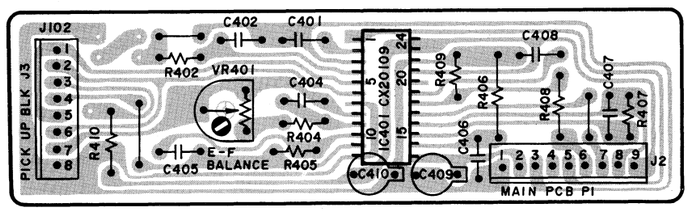
HEADPHONE PCB



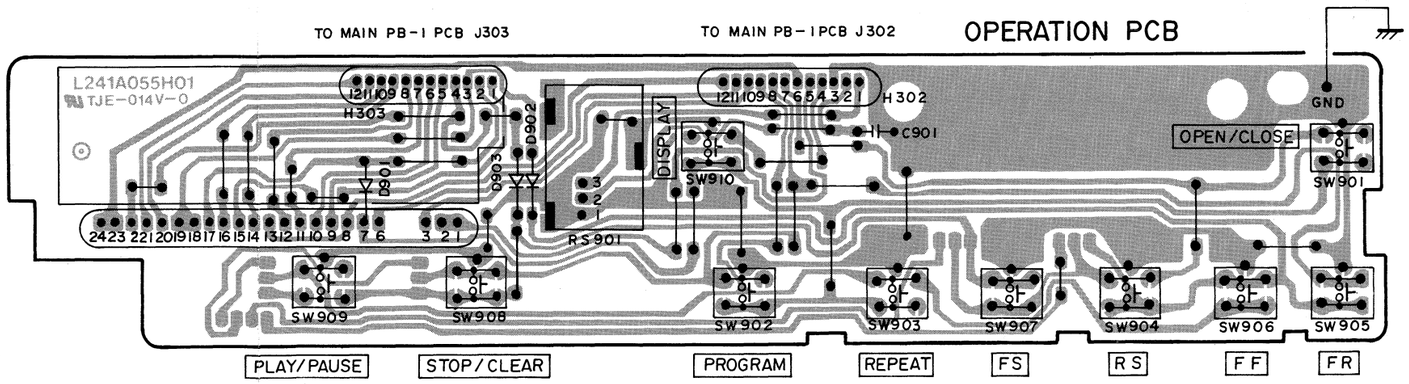
POWER PB-2 PCB U

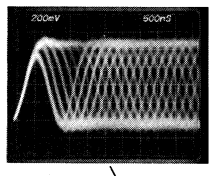


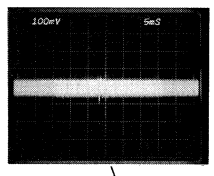
POWER PB-2 PCB C A E B S

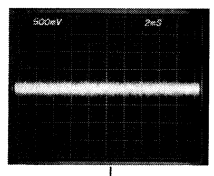


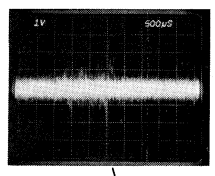
RF-AMP PB-6 PCB

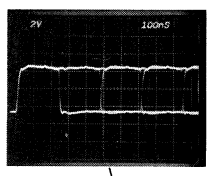


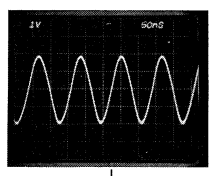


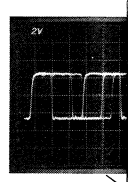












SLIDE MOTOR

J201-2

A,B,C,D,E,F PHOTO DETECTOR

LD PD

FOCUS ACTUATOR

TRACKING ACTUATOR

LD ON/OFF

Q1 to 3

APC

VR1

APC GAIN

LD ON : -5V
LD OFF : 0V

PICK UP MLP-4C

DRIVE

IC102

FS

TS

SS

Q101

-5V

LD ON

J122

FE

E

VR103 FS GAIN

VR102 FS OFFSET

VR104 TS GAIN

VR101 TS OFFSET

TE IN

IC401 CX20109

HF OK

LPF

PICK BOTTOM BUFFER

HF

I-V

10k

15k

60k

A+C

B+D

EF BAL

AGND

VR401

X11

TE

FE

ASSY

V SEL

MR

GND

J201

HF

HF OK

MR

TE

FE

RF AMP PB-6 PCB

IREF

TC

SHOCK DET

FZC

FSR

FSR DET

FS

FS OUT

FG IN

DATA OUT

JP1

MSD

MLA

MCK

ACLR

LOGIC CONTROL

TE

TGI SW

TS SW

TG2 SW

JF

JR

SS SW

SF

SR

SS

TS (+)

TS OUT

SS OUT

IC101 M51564P
PICK UP SERVO CONTROL

FROM POWER ON RESET

Q104

HFOK

Q102
Q103

HFOK : H
Q103 : OFF

+5V

IC20
DA

ADDRESS BUS 8bit

X201
8.4672MHz

OVERFLOW LIMITER

ERROR STATE OUTPUT

DIGITAL FILTER

INTERPOLATION OUTPUT CONTROL

PHASE COMPARISION

TIMING GENERATE

CLV SERVO CONTROL

DATA

LATCH

LR CLOCK

DAC INTERFACE

PWM

S/S

ATT

TEST CONTROL

WORD CLOCK

IC303

REMOCON DETECTOR

DO

S

5V

Q306

F1 F2 F3 F4

ACK

STB

KP4

Q301

4.2336MHz

IC301 M50752-401SP
SYSTEM CONTROLLER (MICRO COMPUTER)

VSS
X OUT S
X OUT F
X IN
RESET
CN VSS
NC
EFFK
STB
TEST
KD 4
SUBB
CRCF
SCOR
DRD
SYCLK
DATA IN
NC
ACK
MUTE
MLA
MCK
MSD

XCIN
XCOUT
KD 3
KD 2
KD 1
KD 0
VP
LD ON
G7
G6
G5
G4
G3
G2
G1
i
g
f
e
d
c
b

KEY RETURN

KEY SCAN

DISPLAY DATA

LD ON

LOADING MOTOR

LOADING MOTOR DRIVE

CLOSE

OPEN

CLOSE : H

OPEN : H

TO SYSCON IC301 PIN ⑧,⑱,⑮

FROM SYSCON IC301 PIN ①,②

Q304
Q305

KEY SCAN

OPEN SW

CLOSE SW

INNER SW

SW913

SW912

SW911

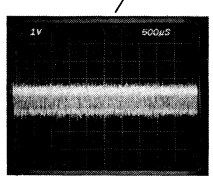
RFMS

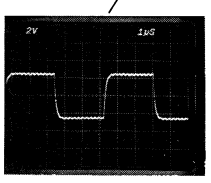
REMOTE SENSOR RS901

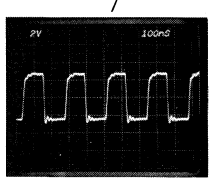
KEY MATRIX

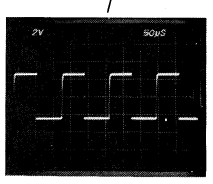
FL901

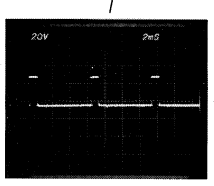
OPERATION PCB

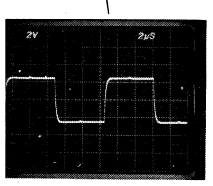


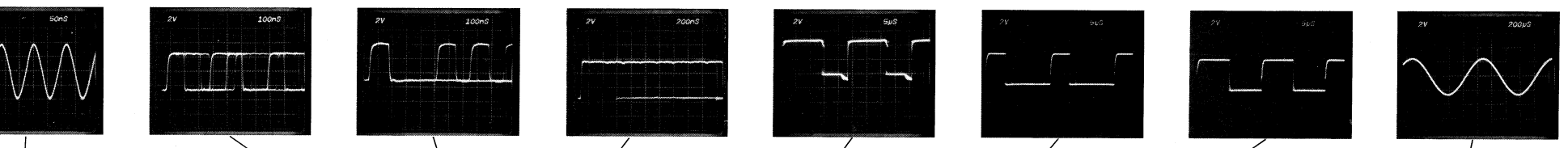












M
DISC MOTOR
J201-1
2
1
+5V
9
18
IC202 M5M4416P
DAINAMIC RAM
RAS 5
CAS 16
WE 4
6 7 8 10 11 12 13 14 2 3 16 17
ADDRESS BUS 8bit
DATA BUS 4 bit
4
+5V
57 56 55 54 53 52 51 50 49 48 47 46 45 44 43 42 41 40 39 38 37
IC201 M50421P
SIGNAL PROCESSOR
RAM INTERFACE
CIRC DECODE
DECODE SEQUENCER
ERROR STATE OUTPUT
OVERFLOW LIMITER
DIGITAL FILTER
INTERPOLATION OUTPUT CONTROL
PHASE COMPARISION
S/S TIMER
CYCLE COMPARISION
VCO
EFM DEMODULATION
SUBCODE DEMODULATION
TIMING GENERATE
CLV SERVO CONTROL
PHASE COMPARISION
CYCLE COMPARISION
EFM TIMING GENERATE
CRCC EMPHASIS
S/S
ATT
BCON
BRAK
MUTE
S/S TIMER RESET
5042I
INTERFACE MICROCOMPUTER
DAC INTERFACE
PWM
SYNC DETECTION
SLICE LEVEL CONTROL
2/3 DETECTION
TEST CONTROL
36 35 34 33 32 31 30 29 28 27 26 25 24 23 22
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21
LOCK
3
VR105
IREF
+B
4
Q203 to Q206
DISC MOTOR DRIVE
PUM 1
PUM 2
+5V
-6V
-8V
IC302
LOW VOLTAGE DETECTOR
TO EACH IC RESET INPUT
POWER ON RESET
Q803,804
C814,815
-22V
-27V
AC3 V
+8V
+6V
POWER REGULATOR
IC801 Q801
IC802 Q802
6 5 4 3 2 1
-22V
-27V
AC3
+8 to 12V
GND
-8 to 12V
POWER PB-2 PCB
J702
5 GND
4 -6V
3 +6V
1 HDL
2 HDR
AMP
J951
NJM4556S
HEAD PHONE PCB
OFF: L
ON: H
Q711
-6V
DE EMPHASIS SW
OFF: -5
ON: 0
Q707
Q708
R785
R767
R769
C771
C772
R784
R770
WORD CLOCK 176.4kHz
L,R CLOCK 88.2kHz
C755
C756
Lch
Rch
IC707 TC4052BP
IC708 M5221P
CONT
IC708 1/2
SAMPLE HOLD
LF701
LF702
LPF
R763
R764
IC709
MUTING
Q709
Q710
J701
Rch OUT
Lch OUT
DE EMPHASIS
CRCF SCOR DRD SYCLK DATA IN NC ACK MUTE MLA MCK MSD JPI CLOSE OPEN
M50752-401SP
CONTROLLER (MICRO COMPUTER)
KEY SCAN
DISPLAY DATA
TO LOADING MOTOR DRIVE PIN ④,⑥
SHIFT REGISTOR
LATCH
16 bit DAC
CLOCK
LATCH
DATA
RFB
VOUT
IC706 PCM-56PJ
D/A CONVERTER
MAIN PCB
1 2 3 4 5 6 7 8 9 10 11 12
FL901
-88:88
2V 2µS
2V 100nS
200mV 1µS
2V 200µS
2V 200µS

CD-A305
BLOCK DIAGRAM
NO. 870723A2

CD-A305

PICK UP MLP-4F

RF AMP PB-6 PCB

RC-50 REMOTE CONTROL TRANSMITTER

MAIN PB-1 PCB

OPERATION PCB

BASE BLK

IC101 M51564P

IC102 STA341M

IC301 M50752-401SP

IC302 S8054ALB

IC303 M50761-430P

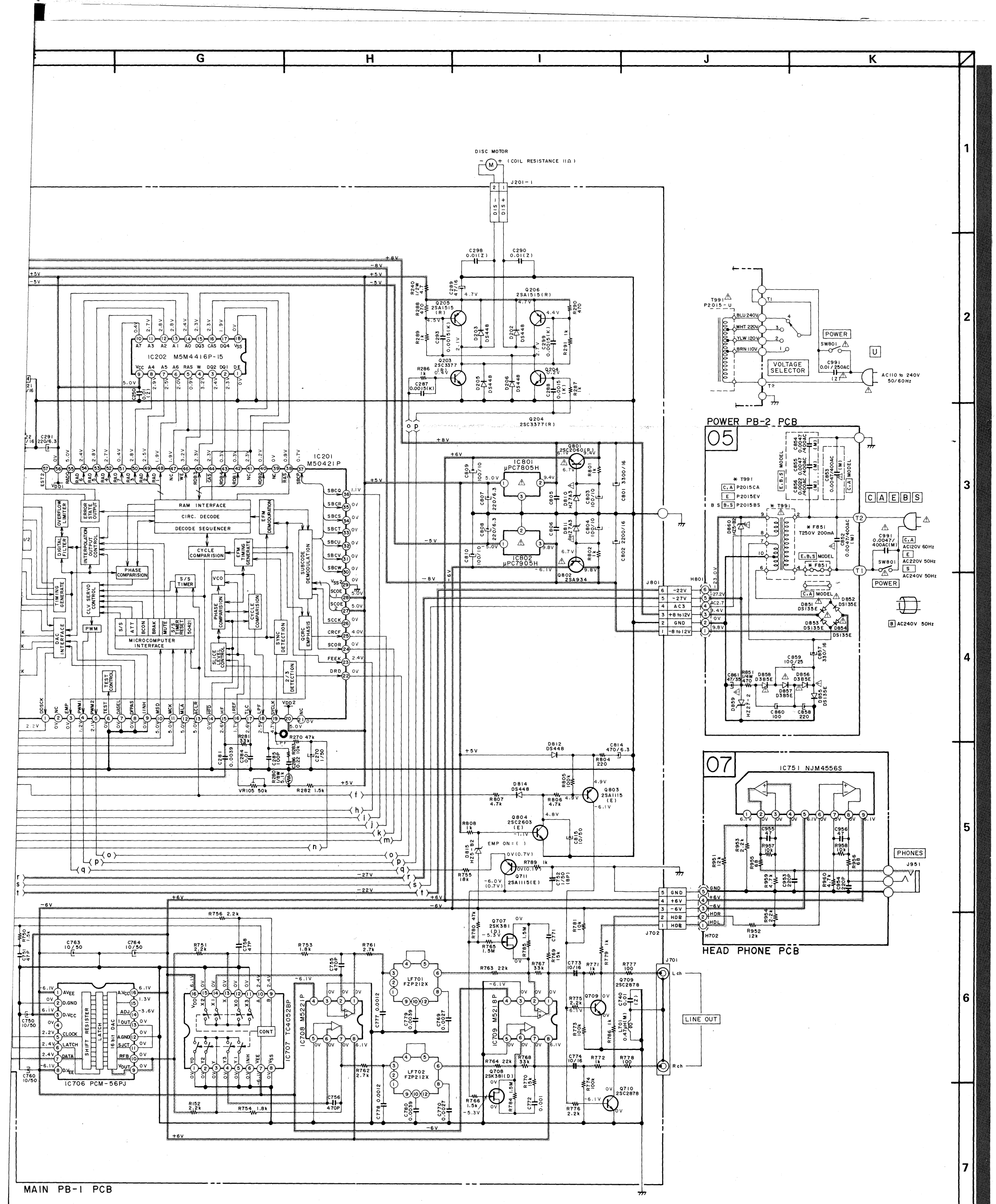
IC304 M54544L

IC401 CX20109

IC706 PCM-56PJ

FL901 PN-2566(2)

001994



INDICATED VOLTAGES ARE MEASURED AT PLAY MODE.

B(POWER SUPPLY) LINE

HF SIGNAL AND AUDIO SIGNAL

TRACKING SERVO

FOCUS SERVO

WARNING: ⚠INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSEMENT: ⚠IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDÉES PAR LE FABRICANT

NOTES
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/6W(J)
ALL CAPACITORS IN μF 50 WV(J)
(FS) = FAIL SAFE RESISTORS

CD-A305 SCHEMATIC DIAGRAM NO. 870724A